

CFTRI-MYSORE



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Distillation equ.

Acc. No 2675

Distillation, equilibrium

Binary Systems

Ternary systems

Multiple Component
Systems.

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6.5.75

5.5.75

20.5.75

2-6-75

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Distillation Equilibrium Data

by

Ju Chin Chu

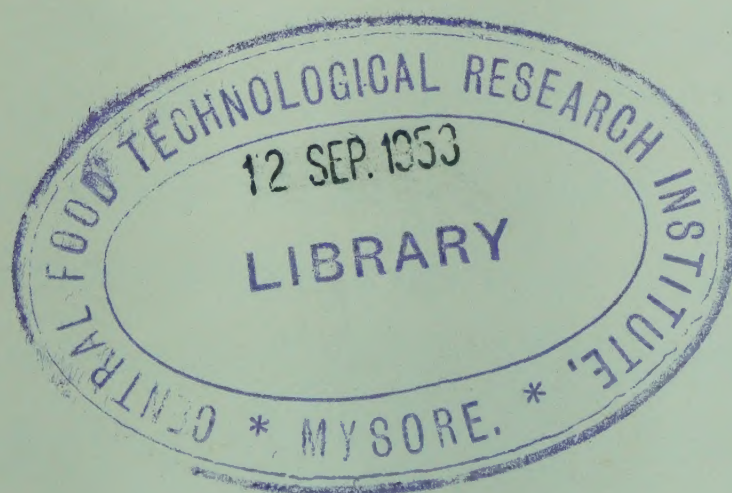
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2675

Distillation equ..

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Distillation is an important unit operation in both chemical industries and petroleum refineries. In the design of the distilling column, the prediction of the performance and operating characteristics of an existing column, a knowledge of vapor-liquid equilibrium data is indispensable. In dealing with the problems in extraction and absorption, the vapor-liquid equilibrium data are the required knowledge for their solution. Vapor-liquid equilibrium data are scattered throughout the literature in countless places, many of which are not available to the average technical man. Both Perry's "Chemical Engineers' Handbook", and Kirschbaum's "Distillation and Rectification" have the collection of vapor-liquid equilibrium data for a number of systems. Their tabulations, however, are far from complete and the recent data since 1940 were not included. The searching of the vapor-liquid equilibrium data to solve a specific problem in distillation, absorption and extraction, has presented a very time consuming, if not difficult, job for the average technical man. It would therefore be highly desirable and helpful if these data were collected and systematically arranged with convenient reach of all.

Such a project induced the interest of the authors two years ago when one of the latter conducted a graduate course in distillation at Washington University. An effort was made to collect this information exhaustively. "Chemical Abstracts" was used and the important journals in which the articles of vapor-

liquid equilibrium data have frequently appeared were used to search for the data within the last few months before the preparation of the final form of the table. Therefore the table includes the data through December of 1949.

It is difficult to assemble experimental results from a large number of workers working in all parts of the world with all kinds of equipment. For some common systems different sets of data using different equipment have been published by different authors. The present tabulation included all of them unless the equipment and technique used reflected an inferior quality of the results. Some original papers expressed their vapor-liquid equilibrium data in either activity coefficients or vapor-liquid equilibrium constants, K . The conversion into direct vapor-liquid equilibrium composition has been made by the authors for the uniformity of the table and the convenience for the direct uses.

Vapor-liquid equilibrium data expressed in terms of mol percentage are listed for $(n-1)$ components in the system where n is the total number of components involved in the system. For instance, in a ternary system the mol percentage of the first two volatile components is given in the table, while the third can be found by subtracting the summation of percentage of the first two from 100.

The vapor-liquid equilibrium data are tabulated together with temperature in $^{\circ}\text{C}$ and pressure in mm.

of Hg in the alphabetical order of the common name of the component which is most volatile in its pure state. A system number is then assigned consecutively for each system according to the order. Binary systems numbered from 1 to 147 constitute the first group, and ternary systems numbered from 147-172 are the second group. All the other systems numbered from 173 to 176 are lumped together as a third group under the title of "Multiple Component Systems." To insure the precision of the original data, as well as to save mechanical labor, no attempt was made to present the data in the even values of mol %, temperature or pressure by interpolation.

Components in each system are listed under the component title of A, B, C, etc., in the order of the decreasing volatilities in their pure state. The chemical formulas, as well as the common names of the components, are given. The original reference to the data is also indicated by a number which refers to the bibliographies listed at the end of the book.

Almost all papers reporting the data of vapor and liquid equilibrium refer to the components of each system by their common names. It is probably the common name rather than the nomenclature of the Geneva system with which most chemical engineers are familiar. Realizing the fact that the arrangement of the system according to the alphabetical order of the common names might create some confusion, we prepared a formula index for the convenience of

locating the system in the table. Entries are made under their own formulas. The arrangement of symbols in the formulas is alphabetical except that in carbon compounds C always comes first, followed immediately by H if hydrogen is also present. The compounds in the formula index are listed in alphabetical order except that the number of atoms of any specific kind influences the order of compounds; e.g., all formulas with C come before those with C₂. All compounds with the same number of carbon atoms are placed together. This is the same system used in "Chemical Abstracts."

Grateful acknowledgement is made to Prof. Donald F. Othmer of Polytechnic Institute of Brooklyn, who has furnished his unpublished data in addition to his helpful advice and encouragement; to Dean Laurence E. Stout of Washington University, who has given much encouragement to the authors and provided secretarial and technical help; and to Mrs. Matilda Westernhagen of the same Institute for her secretarial help in getting the table into final form.

JU CHIN CHU

New York, N.Y.
August, 1950

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Dedicated to
Dean Thomas K. Sherwood
an eminent and beloved leader
in chemical engineering

SYSTEM 1 Reference 46

(A) Acetaldehyde
 C_2H_4O

(B) Acetic Acid
 $C_2H_4O_2$

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
3.5	58.2	42.0	768
10.0	73.7	55.5	
20.0	82.5	69.3	
36.0	90.8	83.7	

SYSTEM 2

Reference 46

(A) Acetaldehyde
C₂H₄O

(B) Ethanol
C₂H₆O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	34.3	77
5.0	21.2	31.2	
10.0	50.0	28.0	
20.0	67.0	22.7	
30.0	77.6	17.0	
40.0	90.8	4.6	
50.0	-	0.0	
65.0	-	-15.2	
100.0	100.0	-23.9	
0.0	0.0	62.8	398
15.0	50.8	51.3	
25.0	71.0	43.5	
35.0	83.3	36.8	
45.0	93.6	30.5	
100.0	100.0	5.8	699
0.0	0.0	76.2	
10.0	49.5	65.8	
20.0	68.2	58.1	
35.0	87.7	47.4	
45.0	95.9	41.5	
100.0	100.0	20.1	

SYSTEM 3

Reference 66

(A) Acetaldehyde
 $\text{C}_2\text{H}_4\text{O}$ (B) Water
 H_2O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.0	0.0	100.0	760
0.5	25.0	93.5	
1.0	50.0	82.0	
4.0	75.0	63.0	
10.0	89.0	43.0	
20.0	93.0	33.0	
30.0	-	29.0	
50.0	-	25.3	
60.0	-	24.6	
75.0	-	23.8	

SYSTEM 4

Reference 18

(A) Acetaldehyde Dibutyl
Acetal
 $C_{10}H_{22}O_2$

(B) n-Butanol
 $C_4H_{10}O$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	187.8	762
0.5	24.7	176.5	
1.8	43.5	168.1	
2.4	44.0	167.5	
4.6	56.1	160.0	
7.9	72.3	148.0	
11.0	77.3	143.4	
24.7	86.5	133.0	
37.0	89.4	129.0	
51.4	92.4	125.5	
61.0	94.2	123.5	
67.2	95.5	122.2	
77.9	96.9	120.8	
83.0	97.4	120.5	
92.3	98.7	119.0	
100.0	100.0	117.9	

SYSTEM 5 Reference 60

(A) Acetic Acid
 $C_2H_4O_2$

(B) Acetic Anhydride
 $C_4H_6O_3$

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
10.0	22.8	Not given	750
20.0	41.5		
30.0	56.0		
40.0	66.2		
50.0	73.9		
60.0	79.6		
70.0	85.0		
80.0	90.1		
90.0	94.6		
100.0	100.0		

SYSTEM 6

Reference 61

(A) Acetic Acid
 $C_2H_4O_2$

(B) Methyl n-Amyl Acetate
 $C_8H_{16}O_2$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
13.5	27.0	143.9	760
18.8	36.3	138.3	
24.5	45.1	136.8	
32.0	51.0	134.9	
33.0	53.0	135.0	
36.3	56.5	132.9	
41.0	60.5	132.0	
56.2	76.0	127.0	
60.1	79.4	126.1	
60.3	79.8	126.0	
63.9	81.9	125.1	
87.1	94.3	120.4	

SYSTEM 7

Reference 61

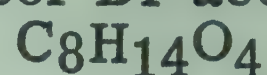
(A) Acetic Acid
 $C_2H_4O_2$ (B) Butyl Cellosolve Acetate
 $C_8H_{12}O_3$

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
9.6	44.1	174.5	760
17.9	61.9	165.0	
27.3	73.0	158.0	
30.0	75.5	154.9	
46.6	87.2	145.0	
53.3	91.2	140.1	
61.9	92.5	134.9	
69.5	95.0	130.9	
75.0	96.8	128.1	
79.0	97.2	126.1	

SYSTEM 8

Reference 64

(A) Acetic Acid

(B) Meso-2,3 Butylene
Glycol Di-acetate

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.37	2.65	137.8	150
1.65	16.53	136.1	
6.71	48.39	129.2	
13.32	70.59	119.3	
26.41	86.13	106.4	
36.72	91.72	98.8	
61.50	96.92	85.5	
71.49	98.26	81.3	
89.36	99.17	75.2	
2.79	16.48	157.5	300
5.61	30.98	153.5	
10.15	55.32	145.0	
14.32	65.77	139.6	
35.25	89.86	119.5	
45.50	93.59	113.3	
63.65	97.10	103.9	
82.56	99.08	94.3	
96.95	99.52	89.9	
1.15	9.03	177.6	500
2.67	21.26	173.6	
7.16	37.89	168.4	
13.80	59.85	159.8	
29.85	86.89	138.5	
54.85	96.69	120.9	
70.49	98.52	112.6	
79.80	98.80	109.3	
84.80	99.15	106.8	
2.16	14.12	191.0	760
7.66	43.40	180.5	
11.28	55.43	175.2	
13.99	68.60	166.7	
23.03	76.87	158.1	
34.13	89.58	145.8	
69.19	97.49	127.9	
84.96	99.20	121.4	
90.86	99.70	120.0	

SYSTEM 9

Reference 61

(A) Acetic Acid
 $C_2H_4O_2$

(B) Methyl n-Amyl Ketone
 $C_7H_{14}O$

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
5.0	12.7	147.5	760
18.0	32.0	145.0	
26.3	45.3	141.9	
34.2	58.2	138.0	
39.1	62.0	136.8	
43.3	66.5	135.0	
49.3	71.7	132.9	
53.0	74.1	132.1	
55.8	76.4	131.1	
60.0	80.0	130.0	
63.4	82.7	129.1	
64.8	83.5	127.3	
68.7	86.7	126.5	
72.0	88.2	125.8	
75.7	89.9	124.5	

SYSTEM 10

Reference 106

(A) Acetone
 C_3H_6O

(B) Acetic Acid
 $C_2H_4O_2$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
4.2	10.8	112.1	760
8.2	22.5	--	
10.3	25.7	107.4	
12.0	28.9	106.3	
12.7	31.0	106.1	
11.8	30.3	105.4	
15.8	35.6	104.6	
19.4	43.3	101.4	
18.6	46.4	98.7	
22.6	56.4	94.3	
23.6	58.0	92.5	
27.1	63.0	90.4	
29.4	66.0	87.0	
30.7	70.9	86.3	
43.3	84.4	78.6	
53.8	92.0	74.2	
55.0	91.8	70.8	
66.8	96.6	65.6	
76.1	98.1	63.6	
93.5	99.7	60.7	

SYSTEM 11-A

Reference 13

(A) Acetone
 C_3H_6O

(B) n-Butanol
 $C_4H_{10}O$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	117.4	760
3.2	24.4	Not given	
6.0	38.25		
8.0	46.90		
11.0	58.2		
14.0	64.95		
20.5	76.5		
30.0	85.2		
34.0	87.84		
42.5	91.8		
50.0	94.38		
55.0	95.0		
58.0	96.15		
62.5	96.7		
74.1	97.5		
80.0	98.51		
79.0	98.5		
90.0	99.30		
100.0	100.0	56.3	

SYSTEM 11-B

Reference 28

(A) Acetone
 C_3H_6O

(B) n-Butanol
 $C_4H_{10}O$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	7.7	25	450
16.0	91.4		73
43.5	96.1		116
65.0	97.5		149
79.0	98.4		164
90.5	98.9		182
95.1	99.1		190

SYSTEM 12-A

Reference 28

(A) Acetone
C₃H₆O

(B) Chloroform
CHCl₃

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.0	--	60.2	760
8.6	6.5	61.4	
18.2	14.7	--	
26.0	23.8	63.0	
33.0	32.0	63.2	
44.1	47.6	62.9	
58.3	66.9	61.5	
72.4	81.2	59.6	
86.9	92.2	57.4	
100.0	99.9	55.3	

SYSTEM 12-B

Reference 100

(A) Acetone
 C_3H_6O

(B) Chloroform
 $CHCl_3$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	61.25	750
18.7	10.2	63.02	
34.0	32.0	63.84	
46.2	51.8	63.41	
57.5	64.3	62.19	
67.0	76.4	61.03	
75.9	83.3	59.91	
83.1	89.1	58.83	
89.2	93.6	57.79	
95.0	97.4	57.00	
100.0	100.0	55.97	

SYSTEM 12-C

Reference 78

(A) Acetone
 C_3H_6O

(B) Chloroform
 $CHCl_3$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	61.3	760
11.08	6.5	62.8	
13.75	10.0	63.1	
21.08	17.6	63.8	
26.60	23.7	64.4	
47.71	51.7	63.9	
57.5	64.8	62.8	
66.33	75.05	61.6	
73.88	82.35	60.4	
79.55	86.88	59.4	
85.90	91.65	58.3	
91.45	95.22	57.5	
100.0	100.0	56.2	

SYSTEM 13

Reference 27

(A) Acetone
 C_3H_6O

(B) Ethanol
 C_2H_6O

Mole % in Liquid Vapor (A) (A)		Temp., °C	Pressure mm. Hg
0.0	0.0	78.3	760
5.0	15.5	75.4	
10.0	26.2	73.0	
15.0	34.8	71.0	
20.0	41.7	69.0	
25.0	47.8	67.3	
30.0	52.4	65.9	
35.0	56.6	64.7	
40.0	60.5	63.6	
50.0	67.4	61.8	
60.0	73.9	60.4	
70.0	80.2	59.1	
80.0	86.5	58.0	
90.0	92.9	57.0	
100.0	100.0	56.1	

SYSTEM 14

Reference 28

(A) Acetone
C₃H₆O

(B) Ethylene Chloride
C₂H₄Cl₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	82.4	760
26.8	52.0	73.3	
53.5	75.8	67.0	
69.8	86.9	62.8	
86.7	95.0	58.7	
100.0	100.0	55.3	

SYSTEM 15-A

Reference 59

(A) Acetone
 $\text{C}_3\text{H}_6\text{O}$ (B) Methanol
 CH_4O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
6.5	16.3	61.9	755
23.8	42.0	58.3	
35.5	52.8	56.8	
49.4	59.6	55.6	
58.8	64.8	55.4	
76.4	78.6	54.9	
85.7	84.8	54.7	
90.0	89.0	55.0	
94.0	94.4	55.2	

SYSTEM 15-B

Reference 62

(A) Acetone
C₃H₆O

(B) Methanol
CH₄O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
4.80	14.00	62.9	760
17.60	31.70	60.1	
28.00	42.00	58.3	
40.00	51.60	57.2	
60.00	65.60	56.1	
67.60	71.00	55.1	
80.00	80.00	55.6	
95.00	94.00	55.6	
98.20	97.60	56.1	

SYSTEM 15-C

Reference 28

(A) Acetone
C₃H₆O

(B) Methanol
CH₄O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	-	100
6.5	16.1	17.6	
12.0	26.2	15.8	
25.0	41.1	12.6	
38.7	55.9	10.8	
62.0	74.1	9.2	
82.0	84.7	8.0	
100.0	100.0	7.4	

SYSTEM 15-D

Reference 51

(A) Acetone
 C_3H_6O

(B) Methanol
 CH_4O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
6.5	16.3	61.9	755
23.8	42.0	58.3	
35.5	52.8	56.8	
49.4	59.6	55.6	
58.8	64.8	55.4	
76.4	78.6	54.9	
85.7	84.8	54.7	
90.0	89.0	55.0	
94.0	84.4	55.2	

SYSTEM 16-A

Reference 61

(A) Acetone
 C_3H_6O

(B) Water
 H_2O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.0	0.0	66.4	200
3.4	60.1	48.1	
5.5	71.5	41.5	
15.4	79.2	33.2	
17.7	83.9	30.7	
31.1	86.2	27.6	
46.8	87.6	25.9	
61.2	88.5	24.8	
78.0	90.9	23.8	
90.3	94.7	22.8	
96.8	98.2	22.3	
100.0	100.0	21.8	
2.1	47.1	66.6	350
6.5	71.6	53.0	
11.2	76.5	48.5	
10.8	78.4	47.4	
13.6	80.1	45.8	
13.0	80.8	46.2	
25.4	84.1	41.9	
37.9	86.3	40.1	
51.2	87.0	39.4	
65.1	88.0	37.9	
78.8	90.6	37.1	
91.5	94.7	36.2	
0.0	0.0	88.7	500
2.8	50.7	71.4	

(System 16-A Cont.)

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
6.1	73.3	62.3	500
7.5	72.6	59.6	
11.0	77.1	56.8	
14.9	78.7	55.0	
15.7	81.4	52.7	
24.6	83.5	51.3	
39.2	85.7	49.4	
48.6	86.5	48.6	
64.0	87.4	47.9	
76.5	89.3	46.5	
88.2	93.3	45.7	
94.8	96.5	45.1	
0.0	0.0	100.0	760
1.5	32.5	89.6	
3.6	56.4	79.4	
7.4	73.4	68.3	
17.5	80.0	63.7	
25.9	83.1	61.1	
37.7	84.0	60.5	
50.5	84.9	59.9	
67.1	86.8	59.0	
80.4	90.2	58.1	
89.9	93.8	57.4	

SYSTEM 16-B

Reference 62

(A) Acetone
 $\text{C}_3\text{H}_6\text{O}$ (B) Water
 H_2O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
5.0	62.0	74.0	760
8.2	72.0	68.9	
12.5	77.1	65.8	
22.0	80.0	62.9	
44.5	83.1	62.7	
66.0	86.6	58.3	
76.0	88.8	57.8	
86.5	93.0	57.3	
93.0	96.0	56.7	

SYSTEM 17

Reference 105

(A) Ammonia
H₃N

(B) Water
H₂O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
2.1	23.2	91.5	760
4.1	42.1	84.8	
6.1	55.5	79.0	
8.2	67.0	73.5	
10.2	73.9	68.4	
16.0	85.1	57.1	
21.0	92.1	46.2	
26.0	95.8	36.6	
34.4	98.0	27.4	
36.2	99.1	18.2	
41.6	99.6	10.0	
2.1	14.0	172.8	7600
4.1	26.0	166.5	
6.1	36.7	160.5	
8.2	45.0	154.7	
10.2	54.4	149.3	
16.0	70.0	135.8	
21.0	80.9	123.7	
26.0	87.8	112.0	
34.4	92.2	100.9	
36.2	95.1	90.3	
41.6	96.8	80.5	
50.8	98.8	62.1	
61.0	99.6	48.0	
71.0	99.8	39.0	
81.0	99.8	32.4	

SYSTEM 18

Reference 41

(A) Active Amyl Alcohol
 $C_5H_{12}O$ (B) Isoamyl Alcohol
 $C_5H_{12}O$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
8.18	8.73	Not given	760
9.76	10.28		
13.64	14.69		
16.58	17.41		
21.25	22.48		
27.40	29.12		
31.43	33.31		
34.83	36.43		
37.15	38.95		
42.37	44.43		
47.88	49.63		
51.44	53.28		
55.40	57.58		
57.41	59.41		
61.38	63.39		
67.63	69.39		
74.88	76.29		
78.83	80.20		
84.49	85.32		
87.95	88.62		
93.75	94.26		
98.58	98.67		

SYSTEM 19-A

Reference 77

(A) Benzene C ₆ H ₆		(B) Acetic Acid C ₂ H ₄ O ₂	
Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.0	0.0	118.7	760
6.47	31.49	109.51	
8.91	38.82	106.82	
12.72	47.82	103.71	
19.23	57.76	99.44	
24.97	64.43	96.23	
29.93	68.59	93.99	
38.04	74.21	90.85	
45.39	77.52	88.96	
64.51	85.04	84.72	
100.0	100.0	80.2	

SYSTEM 19-B

Reference 59

(A) Benzene
 C_6H_6 (B) Acetic Acid
 $C_2H_4O_2$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.9	6.1	115.1	758
2.7	24.0	109.0	
7.1	40.0	100.0	
17.0	59.1	91.5	
34.0	70.2	85.8	
53.5	82.0	82.8	
88.9	93.3	80.0	
92.6	96.2	79.8	
96.2	96.8	--	
97.4	97.5	--	
98.1	98.1	--	
98.7	98.5	--	

SYSTEM 20-A

Reference 75

(A) Benzene
C₆H₆

(B) Cyclohexane
C₆H₁₂

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
4.5	5.9	80.2	759
6.6	8.4	80.0	
10.5	12.9	79.5	
11.8	14.5	79.3	
25.4	29.0	78.2	
38.3	40.7	77.5	
44.9	46.1	77.4	
50.2	50.2	77.4	
55.4	54.5	77.4	
59.7	58.0	77.5	
62.8	60.5	77.6	
64.5	62.1	77.6	
72.0	68.2	77.7	
73.8	69.8	77.8	
75.3	71.7	78.0	
79.8	75.8	78.2	
83.5	79.8	78.3	
87.9	84.7	78.7	
89.3	86.5	78.9	
91.4	88.9	79.0	
92.8	90.7	79.2	
93.7	91.8	79.3	
96.0	94.8	79.5	

SYSTEM 20-B

Reference 82

(A) Benzene
 C_6H_6 (B) Cyclohexane
 C_6H_{12}

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
12.82	16.57	39.99	194.94
23.54	27.66		200.65
36.85	39.12		204.75
49.32	49.50		206.12
61.43	59.09		205.18
74.28	69.79		201.73
86.56	82.05		195.04
11.86	14.86	69.98	567.60
24.09	28.05		584.90
37.59	39.82		596.16
49.45	49.75		600.27
61.80	60.27		599.32
72.48	69.62		593.48
86.59	83.11		577.79
49.52	49.48	29.98	136.38
45.93	46.80	49.99	302.07
45.17	46.49	59.95	430.28

SYSTEM 21

Reference 43

(A) Benzene
C₆H₆

(B) Cyclohexene
C₆H₁₀

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.0	0.0	82.1	740
6.8	8.5	81.5	
33.0	36.3	79.8	
46.6	48.9	79.4	
49.6	51.8	79.2	
55.3	56.9	79.1	
58.3	59.5	79.1	
59.7	61.1	79.1	
65.7	65.7	78.9	
68.3	68.0	78.9	
73.0	72.7	78.9	
84.2	83.0	78.95	
85.1	84.1	78.95	
88.5	87.5	78.95	
100.0	100.0	79.2	

SYSTEM 22

Reference 92

(A) Benzene
C₆H₆

(B) Ethylene Chlorhydrin
C₂H₅ClO

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
1.2	28.9	114.0	760 ± 3
5.4	52.8	98.8	
7.8	60.7	95.0	
10.1	69.2	92.8	
18.6	24.3	88.2	
25.4	79.2	86.2	
37.0	83.0	84.4	
45.4	85.0	83.5	
66.2	87.8	82.0	
71.5	88.8	81.7	
79.9	91.5	81.2	
89.9	94.8	80.5	

SYSTEM 23

Reference 90

(A) Benzene
C₆H₆

(B) Ethylene Dichloride
C₂H₄Cl₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	83.48	760
5.0	5.5	83.32	
10.0	11.0	83.14	
20.0	21.7	82.79	
30.0	32.2	82.45	
40.0	42.6	82.10	
50.0	52.6	81.77	
60.0	62.5	81.43	
70.0	72.2	81.09	
80.0	81.6	80.76	
90.0	90.9	80.42	
95.0	95.5	80.27	
100.0	100.0	80.09	

SYSTEM 24-A

Reference 35

(A) Benzene
 C_6H_6 (B) Toluene
 C_7H_8

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
11.7	22.0	120	1,132
25.6	42.2		1,322
25.8	42.5		1,330
26.4	45.3		1,322
44.0	63.9		1,515
68.2	82.4		1,868
12.7	22.8	160	2,880
27.7	41.4		3,280
39.8	54.3		3,600
62.0	75.2		4,260
76.0	84.5		4,870
47.0	62.0	180	5,580
54.0	67.9		5,950
15.4	22.2	200	6,770
27.0	38.4		7,240
38.5	51.8		7,910
56.6	68.2		8,690
77.7	84.6		9,720
17.1	23.7	240	12,300
30.8	41.7		13,600
50.7	60.8		15,200
55.0	66.6		16,000
75.9	82.9		17,300
16.9	21.2	280	21,220
30.2	37.8		23,200
35.5	42.7		23,600
57.0	64.3		26,200
74.3	79.0		29,000

SYSTEM 24-B

Reference 51

(A) Benzene
 C_6H_6 (B) Toluene
 C_7H_8

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	110.6	760
8.8	21.2	106.1	
20.0	37.0	102.2	
30.0	50.0	98.6	
39.7	61.8	95.2	
48.9	71.0	92.1	
59.2	78.9	89.4	
70.0	85.3	86.8	
80.3	91.4	84.4	
90.3	95.7	82.3	
95.0	97.9	81.2	
100.0	100.0	80.2	

SYSTEM 25

Reference 73

(A) Bromine Br ₂		(B) Water H ₂ O	
Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.022	7.4	Not given	750
0.045	15.7		
0.079	25.0		
0.10	38.0		
0.17	50.7		
0.18	60.0		
0.23	57.5		
0.25	64.0		
0.27	62.0		
0.29	76.0		
0.35	83.8		
0.39	84.0		

SYSTEM 26

Reference 54

(A) Iso-Butane
 C_4H_{10} (B) Furfural
 $C_5H_4O_2$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
1.789	99.2	37.8	768
5.25	99.7		2054
10.29	99.9		3346
4.04	99.4	51.7	2052
7.46	99.7		3342
11.86	99.8		4643
12.12	99.9		4649
3.34	98.8	65.6	2059
6.98	99.4		3859
10.39	99.6		5158
2.38	96.2	93.3	2055
5.25	98.2		4120
8.020	98.7		5942

SYSTEM 27

Reference 54

(A) n-Butane
 C_4H_{10} (B) Furfural
 $C_5H_4O_2$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
4.59	99.5	37.78	1174
4.65	99.5	37.78	1174
7.81	99.7	37.78	1799
7.95	99.7	37.78	1799
8.31	99.7	37.78	1849
11.66	99.8	37.78	2319
12.04	99.8	37.78	2332
2.23	98.4	51.67	766
3.97	99.0	51.67	1320
5.26	99.3	51.67	1645
7.76	99.5	51.67	2309
11.54	99.6	51.67	2835
17.90	99.8	51.67	3473
1.68	96.7	65.6	756
2.97	98.0	65.6	1260
4.48	98.7	65.6	1793
5.98	99.0	65.6	2319
7.51	99.2	65.6	2834
9.51	99.4	65.6	3348
16.46	99.6	65.6	4647
20.72	99.6	65.6	5057
1.96	93.7	93.3	1249
2.82	95.3	93.3	1701
3.08	96.0	93.9	1847
3.82	96.7	93.9	2269
5.97	97.8	93.9	3470
8.33	98.2	93.9	4397
9.18	98.4	93.9	4884

SYSTEM 28

Reference 33

(A) n-Butane
C₄H₁₀

(B) n-Heptane
C₇H₁₆

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
15.9	15.9	255.6	23,350
42.5	42.5	231.6	27,800
80.1	80.1	237.4	30,800

SYSTEM 29

Reference 70

(A) n-Butane
 C_4H_{10} (B) Water
 H_2O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
95.17	95.17	151.9	33,000
95.80	94.45	150.8	32,380
96.21	93.75	148.8	31,020
96.76	93.07	140.0	28,430
96.83	93.02	143.3	28,040
97.24	92.92	138.7	25,860
97.32	92.93	137.8	25,400
97.69	93.02	133.0	23,300
98.11	93.30	126.8	20,700
98.43	93.61	121.1	18,610
98.50	93.69	119.6	18,100
98.87	94.15	111.6	15,500
99.15	94.59	104.4	13,410
99.20	94.69	102.7	12,920
99.48	95.35	92.0	10,340
99.57	95.61	87.8	6,450
99.60	95.73	85.8	9,050
99.70	96.15	78.5	7,760
99.79	96.62	71.0	6,470
99.86	97.15	61.9	5,175
99.90	97.55	54.4	4,280
99.91	97.62	53.1	4,140
99.94	98.13	42.5	3,102
99.95	98.33	37.8	2,710

SYSTEM 30

Reference 92

(A) Iso-Butanol
 $C_4H_{10}O$

(B) Ethylene Chlorhydrin
 C_2H_5ClO

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
3.0	6.9	125.7	760 ± 3
15.3	30.5	119.6	
26.4	42.4	116.5	
44.2	60.5	113.3	
52.4	67.6	112.2	
62.4	75.9	111.0	
68.2	80.2	110.2	
72.5	83.2	109.8	
77.7	86.5	109.3	
88.6	94.0	108.3	

SYSTEM 31

Reference 30

(A) Iso-Butanol (B) 1,1,2,2 Tetrachloroethane
 $\text{C}_4\text{H}_{10}\text{O}$ $\text{C}_2\text{H}_2\text{Cl}_4$

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
4.0	20.9	Not given	760
7.2	27.0		
7.0	39.4		
14.5	48.0		
23.0	61.1		
36.5	69.0		
50.4	78.5		
71.0	85.5		
86.0	92.5		
96.4	98.8		

SYSTEM 32

Reference 13

(A) n-Butanol
 $C_4H_{10}O$

(B) n-Butyl Acetate
 $C_6H_{12}O_2$

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
10.90	21.7	121.75	760
20.8	33.2	120.1	
29.5	41.3	119.1	
36.1	46.5	118.4	
43.3	51.7	117.8	
44.7	52.9	117.5	
51.0	56.9	117.3	
54.4	60.1	117.1	
55.4	60.7	116.8	
57.5	61.9	116.6	
60.8	64.2	116.4	
64.6	66.9	116.3	
67.9	69.2	116.2	
71.0	71.5	116.2	
72.6	73.4	116.6	
72.9	72.9	116.2	
73.1	73.3	116.55	
75.6	75.0	116.55	
82.8	81.3	116.3	
86.5	85.0	117.0	
91.3	89.5	117.0	
96.0	94.2	117.0	
98.0	96.4	117.0	
99.5	98.9	117.0	

SYSTEM 33

Reference 92

(A) n-Butanol
 $C_4H_{10}O$

(B) Ethylene Chlorhydrin
 C_2H_5ClO

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
5.1	8.0	126.0	760 ± 3
18.0	26.6	123.2	
43.0	53.8	120.8	
61.6	70.1	119.3	
67.9	77.8	119.0	
73.7	80.5	118.6	
78.7	84.3	118.3	
84.3	88.6	118.0	
92.0	94.2	117.5	

SYSTEM 34

Reference 54

(A) 1-Butene
C₄H₈

(B) Furfural
C₅H₄O₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
4.5	99.2	37.8	760
6.77	99.5		1026
8.83	99.6		1296
12.75	99.8		1798
18.23	99.8		2330
27.99	99.9		2768
28.89	99.9		2828
31.27	99.9		2845
3.81	98.4	51.7	760
4.51	98.8		1036
5.94	99.0		1284
15.34	99.6		2843
20.70	99.7		3352
21.55	99.8		3357
30.22	99.85		3852
2.58	97.0	65.6	760
2.70	97.1		853
2.94	97.1		881
4.62	98.0		1319
5.98	98.7		1802

(System 34 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
6.52	98.7		1813
10.54	99.3		2827
11.10	99.3		2837
13.25	99.4		3396
13.77	99.4		3344
17.64	99.5		3926
26.78	99.6		4880
31.54	99.7		5152
51.81	99.8		5691
77.67	99.0		5889
1.68	90.0	93.3	812
2.19	92.1		1021
4.11	95.7		1805
6.74	97.1		2829
9.60	98.0		3859
13.18	98.6		4914

SYSTEM 35

Reference 64

(A) levo-2,3 Butylene Glycol (B) meso Butylene Diacetate
 $C_4H_{10}O_2$ $C_8H_{14}O_4$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
8.0	17.0	165.2	350
16.0	27.0	158.9	
48.0	54.0	163.9	
64.0	65.0	153.0	
70.0	68.8	153.0	
75.5	72.5	153.1	
80.5	75.0	153.2	
90.0	83.0	153.7	
93.3	87.5	154.0	
98.0	93.0	154.5	
100.0	100.0	154.8	
1.0	6.5	153.8	250
8.5	19.0	150.6	
16.2	30.0	148.0	
28.5	49.5	145.8	
39.5	58.0	144.4	
58.5	61.0	143.5	
71.5	66.5	143.5	
80.5	72.5	143.8	
84.0	75.0	144.0	
91.5	82.5	144.5	

(System 35 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
100.0	100.0	145.0	760
2.5	4.5	193.0	
4.8	7.4	189.8	
9.6	14.0	187.0	
19.0	26.0	184.0	
34.2	41.5	181.5	
41.0	48.8	180.4	
55.0	61.0	178.6	
71.3	73.0	177.6	
80.8	79.5	177.6	
95.5	93.8	177.7	
100.0	100.0	179.0	
8.5	24.0	172.0	500
22.2	28.5	168.5	
28.0	37.0	167.2	
61.0	64.0	164.7	
71.0	71.0	164.6	
77.0	75.0	164.6	
83.0	79.0	164.8	
89.0	84.5	165.1	
92.5	87.5	165.2	
95.0	90.5	165.4	
100.0	100.0	165.8	

SYSTEM 36

Reference 77

(A) Carbon Disulfide
C S₂

(B) Acetone
C₃H₆O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.00	0.00	56.2	760
1.90	8.32	54.0	
4.76	18.50	51.4	
13.40	35.10	46.6	
18.58	44.30	44.0	
29.12	52.75	41.4	
37.98	57.40	40.3	
44.77	59.80	39.8	
53.60	62.70	39.3	
65.30	66.10	39.1	
78.94	70.50	39.3	
80.23	72.30	39.6	
87.99	76.00	40.5	
96.83	88.60	43.5	
100.00	100.00	46.3	

SYSTEM 37

Reference 77

(A) Carbon Disulfide
C S₂

(B) Carbon Tetrachloride
C Cl₄

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.00	0.00	76.7	760
2.96	8.23	74.9	
6.15	15.55	73.1	
11.06	26.60	70.3	
14.35	33.25	68.6	
25.85	49.50	63.8	
39.08	63.40	59.3	
53.18	74.70	55.3	
66.30	82.90	52.3	
75.74	87.80	50.4	
86.04	93.20	48.5	
100.00	100.00	46.3	

SYSTEM 38

Reference 46

(A) Carbon Monoxide
C O

(B) Ethyl Ether
C₄H₁₀O

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.0	0.0	34.2	750
1.4	55.0	15.0	
2.3	76.2	0.0	
6.8	94.0	-24.0	
27.4	99.8	-64.0	
47.4	100.0	-78.6	



SYSTEM 39-A

Reference 84

(A) Carbon Tetrachloride
C Cl₄(B) Benzene
C₆H₆

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
13.98	17.03	40°	190.18
23.78	27.74		194.70
37.35	41.59		200.07
49.19	52.95		204.02
49.86	53.59		204.20
62.01	64.75		207.44
75.85	77.39		210.37
87.18	87.83		211.97
14.28	16.66	70°	568.89
23.94	27.02		579.13
37.91	41.05		591.62
49.30	52.04		600.77
49.39	52.15		599.67
62.24	64.11		607.22
76.24	77.19		613.08
87.50	87.80		616.02
48.65	52.98	30°	134.40
49.26	52.65	50°	300.20
49.07	52.10	60°	429.52

SYSTEM 39-B

Reference 46

(A) Carbon Tetrachloride
C Cl₄

(B) Benzene
C₆H₆

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.00	0.00	80.0	760
13.64	15.82	79.3	
21.57	24.15	78.8	
25.73	28.80	78.6	
29.44	32.15	78.5	
36.34	39.15	78.2	
40.57	43.50	78.0	
52.69	54.80	77.6	
62.02	63.80	77.4	
72.23	73.30	77.1	

SYSTEM 40

Reference 83

(A) Carbon Tetrachloride
C Cl₄(B) Cyclohexane
C₆H₁₂

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
12.62	15.15	40°	190.62
24.53	28.22		195.62
36.69	40.66		200.08
47.39	51.03		203.40
51.51	54.74		204.59
47.53	51.16		203.45
60.61	63.41		206.97
75.42	77.02		210.15
87.56	88.22		212.04
12.48	14.58	70°	558.78
24.68	27.87		571.54
36.40	39.81		582.59
48.36	51.50		591.97
51.53	54.73		594.42
47.96	51.13		591.73
60.74	63.20		600.52
75.35	76.80		608.79
87.57	88.18		613.97
47.28	51.14	30°	134.73
48.29	51.73	50°	298.44
48.10	51.37	60°	425.34

SYSTEM 41-A Reference 46

(A) Carbon Tetrachloride
C Cl₄

(B) Ethanol
C₂H₆O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	77.9	745
6.4	25.0	72.8	
11.4	35.0	70.3	
17.6	45.0	68.0	
33.6	55.0	65.0	
60.0	60.0	63.8	
63.0	63.0	63.6	
72.8	67.0	64.3	
100.0	100.0	75.9	

SYSTEM 41-B

Reference 99

(A) Carbon Tetrachloride
C Cl₄(B) Ethanol
C₂H₆O

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.0	0.0	77.91	745
3.2	16.6	74.82	
6.9	26.5	72.44	
11.4	35.5	70.25	
16.6	43.8	68.35	
22.9	49.8	66.64	
31.0	53.9	65.32	
41.1	57.2	64.42	
54.5	59.7	63.88	
73.0	66.5	64.30	
100.0	100.0	75.92	

SYSTEM 42-A

Reference 46

(A) Carbon Tetrachloride
 C Cl_4 (B) Ethyl Acetate
 $\text{C}_4\text{H}_8\text{O}_2$

Mole % in Liquid Vapor (A) (A)		Temp. $^{\circ}\text{C}$	Pressure mm. Hg
0.0	0.0	76.5	745
9.5	10.0	75.8	
17.9	20.0	75.2	
28.4	30.0	74.7	
37.3	40.0	74.3	
44.0	50.0	74.1	
58.0	60.0	74.1	
68.2	70.0	74.3	
83.9	85.0	74.9	
100.0	100.0	75.9	

SYSTEM 42-B

Reference 89

(A) Carbon Tetrachloride
C Cl₄(B) Ethyl Acetate
C₄H₈O₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	74.1	685
5.0	7.0	73.6	
10.0	13.3	73.1	
20.0	24.5	72.5	
30.0	34.2	72.1	
40.0	43.3	71.8	
50.0	51.8	71.6	
58.2	58.2	71.56	
60.0	59.7	71.6	
70.0	68.1	71.8	
80.0	77.3	72.1	
90.0	88.1	72.6	
95.0	94.0	72.9	
100.0	100.0	73.4	

SYSTEM 43

Reference 16

(A) Carbon Tetrachloride
C Cl₄

(B) n-Propyl Alcohol
C₃H₈O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	97.19	760
5.8	25.3	90.8	
14.1	45.0	84.5	
30.0	63.3	78.5	
44.1	70.7	75.8	
52.2	73.9	74.7	
68.3	78.2	73.9	
81.8	81.8	73.4	
85.1	83.1	73.6	
95.0	89.5	74.2	
100.0	100.0	76.75	

SYSTEM 44

Reference 14

(A) Carbon Tetrachloride
 C Cl_4

(B) Toluene
 C_7H_8

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.00	0.00	110.4	762
5.75	12.65		
16.25	31.05		
28.85	49.35		
42.60	64.25		
56.05	75.50		
64.25	81.22		
78.20	89.95		
94.55	97.35		

SYSTEM 45

Reference 46

(A) Chloroform
CH Cl₃

(B) Benzene
C₆H₆

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0	0	80.6	760
8	10	79.8	
15	20	79.0	
22	30	78.2	
29	40	77.3	
36	50	76.4	
44	60	75.3	
54	70	74.0	
66	80	71.9	
79	90	68.9	
100	100	61.4	

SYSTEM 46

Reference 81

(A) Chloroform
 CHCl_3 (B) Ethanol
 $\text{C}_2\text{H}_6\text{O}$

Mole % in Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.62	2.54	35.0	104.87
2.41	9.11		111.31
2.97	12.10		113.61
5.42	21.54		123.54
5.94	24.43		125.82
11.09	38.85		148.26
17.30	53.04		177.60
23.61	62.07		205.68
30.14	68.70		229.24
32.27	70.09		236.50
38.45	73.70		253.39
38.73	67.47		225.06
39.22	74.12		255.28
43.84	76.46		267.65
48.27	77.97		274.04
48.46	78.12		274.46
61.85	81.81		291.95
67.83	83.27		296.93
77.46	85.54		303.05
82.65	86.98		305.39
84.23	87.52		305.12
84.83	87.83		306.25
93.15	91.61		306.05
95.60	93.63		304.87
95.86	93.85		304.17
96.00	94.03		303.69
96.16	94.64		303.91
100.00	100.00		295.11

(System 46 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.00	0.00	45.0	172.76
1.57	6.00		180.96
1.89	7.16		182.63
4.76	17.17		199.62
7.12	24.67		214.44
12.60	39.74		249.92
19.97	53.66		298.08
20.11	53.95		299.63
25.69	60.60		329.62
31.16	65.57		355.66
32.98	67.14		365.07
40.15	71.43		391.51
44.39	73.40		403.91
51.40	76.03		420.63
54.05	77.03		425.28
62.83	79.54		438.89
71.48	81.91		448.17
82.06	85.16		455.56
88.52	87.83		455.79
91.00	89.33		454.54
91.25	89.46		454.02
91.63	89.74		453.76
95.57	93.19		448.49
0.00	0.00	45.0	172.76
1.57	6.00		180.96
1.89	7.16		182.63
4.76	17.17		199.62
7.12	24.67		214.44
12.60	39.74		249.92
19.97	53.66		298.08
20.11	53.95		299.63

(System 46 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
25.69	60.60		329.62
31.16	65.57		355.66
32.98	67.14		365.07
40.15	71.43		391.51
44.39	73.40		403.91
51.40	76.03		420.63
54.05	77.03		425.28
62.83	79.54		438.89
71.48	81.91		448.17
82.06	85.16		455.56
88.52	87.83		455.79
91.00	89.33		454.54
91.25	89.46		454.02
91.63	89.74		453.76
95.57	93.19		448.49
96.77	94.54		445.38
97.58	95.79		443.07
98.66	97.27		439.89
100.00	100.00		433.54
3.31	11.62	55.0	306.38
7.12	23.02		339.89
8.02	25.33		346.89
10.29	31.23		367.01
14.79	40.35		407.90
18.69	47.95		441.04
22.01	52.71		469.41
28.06	59.42		508.78
34.12	64.17		543.53
34.45	64.19		545.72
37.67	66.41		560.25

(System 46 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
39.04	67.20		566.74
39.65	67.60		569.02
47.94	71.61		599.03
57.30	75.27		623.67
62.11	76.39		632.14
68.51	78.57		641.49
72.69	80.10		646.79
77.64	81.81		650.96
83.90	84.17		653.11
90.37	87.98		650.38
94.30	91.50		644.24
96.52	94.08		626.79
100.00	100.00		617.84

SYSTEM 47

Reference 43

(A) Cyclohexane
 C_6H_{12}

(B) Cyclohexene
 C_6H_{14}

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	82.2	741
1.5	3.5	82.1	
9.9	13.5	82.0	
19.9	20.0	81.7	
54.0	56.5	80.9	
57.8	60.0	80.75	
66.3	68.0	80.65	
70.5	73.5	80.5	
74.2	76.0	80.4	
83.2	84.5	80.3	
90.4	91.9	80.15	
94.0	95.5	80.1	
100.0	100.0	80.0	

SYSTEM 48

Reference 28

(A) Cyclohexane
C₆H₁₂

(B) Ethylene Dichloride
C₂H₄Cl₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	82.4	760
11.9	24.0	77.5	
24.2	37.6	75.4	
38.0	45.6	74.5	
51.5	52.9	74.1	
65.6	60.4	74.4	
78.9	70.3	75.2	
90.8	83.3	77.0	
100.0	100.0	79.9	

SYSTEM 49

Reference 75

(A) Cyclohexane
 C_6H_{12} (B) Methyl Cyclohexane
 C_7H_{14}

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
9.1	18.5	98.3	760
18.5	27.8	96.0	
27.8	56.4	94.1	
44.7	63.7	91.6	
56.4	67.5	90.5	
63.7	70.9	87.4	
80.7	90.2	84.2	
95.2	96.5	83.6	

SYSTEM 50

Reference 43

(A) Cyclohexane
 C_6H_{12}

(B) 2,2,3 Trimethylbutane
 C_7H_{16}

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	80.1	744
4.2	6.6	80.0	
11.8	14.9	79.9	
22.5	25.5	79.75	
27.9	30.6	79.7	
37.9	39.6	79.55	
43.5	44.3	79.5	
48.4	49.1	79.45	
51.7	51.8	79.45	
52.2	52.2	79.45	
66.5	65.4	79.45	
75.7	74.8	79.5	
83.4	82.3	79.6	
87.1	86.0	79.7	
91.2	90.0	79.8	
94.0	92.7	79.9	
96.3	95.2	80.0	
100.0	100.0	80.1	

SYSTEM 51

Reference 52

(A) di-Methoxy Methane
 $\text{C}_3\text{H}_8\text{O}_2$ (B) Benzene
 C_6H_6

Mole % in Liquid (A)	Vapor (A)	Temp. $^{\circ}\text{C}$	Pressure mm. Hg
10.0	34.18	35.0	205.7
20.0	51.96	35.0	253.6
30.0	63.40	35.0	297.3
40.0	72.02	35.0	337.4
47.40	77.10	35.0	366.8
50.0	78.80	35.0	377.2
60.0	84.45	35.0	417.4
70.0	89.28	35.0	458.0
71.57	90.04	35.0	464.4
80.0	93.55	35.0	499.8
90.0	97.05	35.0	542.1

SYSTEM 52

Reference 52

(A) di-Methoxy Methane
 $C_3H_8O_2$

(B) Chloroform
 $CHCl_3$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0		35.0	
10.0	9.22	35.0	290.5
18.82	20.53	35.0	290.8
20.0	22.22	35.0	291.3
30.0	37.72	35.0	201.9
35.88	47.15	35.0	313.2
40.0	53.40	35.0	323.2
50.0	67.49	35.0	354.5
60.0	78.80	35.0	394.3
70.0	87.00	35.0	440.2
80.0	93.25	35.0	489.0
90.0	97.20	35.0	538.0
100.0		35.0	

SYSTEM 53

Reference 75

(A) 2,4 Dimethyl Pentane
C₇H₁₆

(B) Benzene
C₆H₆

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
7.8	12.5	77.3	757
10.6	16.4	77.0	
14.0	19.5	76.5	
16.2	21.9	76.3	
19.2	24.2	76.1	
22.4	26.8	75.9	
25.1	29.2	75.7	
28.1	31.8	75.5	
33.5	35.7	75.4	
37.8	39.2	75.4	
43.2	43.2	75.2	
48.0	46.9	75.4	
52.5	50.4	75.3	
57.2	54.1	75.5	
61.6	57.6	75.5	
66.2	61.4	75.9	
70.0	65.2	76.1	
74.0	68.6	76.3	
78.5	73.1	76.6	
83.9	78.5	77.2	

SYSTEM 54

Reference 63

(A) 2,6 Dimethyl Pyridine
C₇H₉N

(B) Phenol
C₆H₆O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
15.5	2.5	138.5	200
26.2	14.0	142.5	
30.0	23.0	143.2	
32.0	29.7	143.3	
37.5	43.4	142.7	
41.5	56.0	141.3	
48.0	73.2	135.9	
55.0	90.0	127.6	
64.0	96.0	117.5	
70.0	98.5	111.0	
81.0	99.5	106.7	
17.0	6.7	161.5	400
27.5	23.0	163.6	
29.0	28.6	163.8	
35.0	42.0	162.9	
41.0	57.0	160.4	
48.0	73.2	154.9	
53.2	85.2	147.0	
61.0	94.0	137.5	
67.0	97.0	131.2	
87.0	99.5	124.5	

(System 54 Cont.)

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
12.5	5.0	174.0	600
18.5	11.6	176.8	
26.5	28.5	178.7	
29.5	33.5	178.5	
37.5	50.3	177.3	
43.5	63.5	174.3	
46.5	69.5	172.5	
53.0	85.0	164.0	
57.0	91.0	158.1	
62.5	95.0	151.3	
71.8	98.5	143.6	
83.3	99.0	139.5	
18.5	13.7	184.5	760
20.0	16.3	185.0	
27.5	33.5	185.8	
39.5	56.0	181.7	
46.0	68.5	177.9	
52.0	79.3	174.8	
55.0	87.0	167.9	
66.5	96.0	155.5	
75.8	98.5	150.0	
87.0	99.5	145.0	

SYSTEM 55

Reference 49

(A) Ethane
C₂H₆

(B) n-Butane
C₄H₁₀

Mole % in		Temp.		Pressure mm. Hg Psia.
Liquid (A)	Vapor (A)	°C		
		Liq.	Vap.	
0.0	0.0	63.3	63.3	5,171
2.0	10.0	57.5	58.9	
4.0	20.0	51.7	53.9	
6.0	30.0	45.9	48.9	
10.0	40.0	36.0	43.3	
15.0	50.0	24.4	37.3	
20.0	60.0	14.8	30.0	
30.0	70.0	-0.8	20.9	
40.0	80.0	-11.8	10.0	
50.0	85.0	-20.5	3.3	
60.0	90.0	-27.2	-5.8	
70.0	92.0	-33.3	-10.3	
80.0	94.0	-37.8	-15.6	
90.0	96.0	--	-22.2	
100.0	98.0	-43.9	-30.6	
0.0	10.0	94.8	89.4	10,343
2.0	20.0	89.7	83.6	
4.0	30.0	84.7	77.2	
6.0	40.0	80.0	70.3	
8.0	50.0	75.3	62.2	
10.0	60.0	70.8	53.9	
15.0	70.0	60.3	42.9	
20.0	80.0	50.3	31.4	
30.0	85.0	33.9	23.6	
40.0	90.0	20.5	13.9	
50.0	92.0	9.2	9.2	
60.0	94.0	1.2	3.9	
70.0	96.0	-6.1	-2.8	
80.0	98.0	-12.2	-10.6	

(System 55 Cont.)

Liquid (A)	Mole % in Vapor (A)	Temp. °C		Pressure mm. Hg
		Liq.	Vap.	
90.0	99.0	-17.2	15.0	15,514
100.0	100.0	-21.1		
0.0	10.0	116.2	109.0	
2.0	20.0	111.9	102.8	
4.0	30.0	107.2	95.6	
6.0	40.0	102.8	88.0	
10.0	50.0	94.4	79.7	
15.0	60.0	84.2	70.0	
20.0	70.0	74.4	58.3	
30.0	80.0	57.0	45.0	
40.0	85.0	42.5	36.7	
50.0	90.0	30.6	26.7	
60.0	92.0	20.8	22.0	
70.0	94.0	12.8	16.1	
80.0	96.0	5.6	10.0	20,686
90.0	98.0	-1.1	3.0	
100.0	99.0	-5.8	-1.1	
0.0	10.0	132.8	125.0	
2.0	20.0	128.9	117.0	
4.0	30.0	125.0	108.9	
6.0	40.0	121.1	100.6	
10.0	50.0	113.0	91.9	
15.0	60.0	103.0	81.4	
20.0	70.0	93.3	69.1	
30.0	80.0	76.1	55.0	
40.0	85.0	61.0	46.4	
50.0	90.0	47.5	36.1	
60.0	92.0	37.0	31.1	
70.0	94.0	27.5	25.8	
80.0	96.0	19.4	19.7	
90.0	98.0	12.0	13.3	
100.0	99.0	5.8	9.7	

(System 55 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C Liq. Vap.		Pressure mm. Hg
0.0	10.0	146.0	137.2	25,857
2.0	20.0	142.8	128.6	
4.0	30.0	139.4	119.7	
6.0	40.0	136.0	110.6	
10.0	50.0	129.1	100.8	
15.0	60.0	119.7	90.0	
20.0	70.0	110.3	77.8	
30.0	80.0	92.8	62.8	
40.0	85.0	76.7	53.6	
50.0	90.0	62.5	43.3	
60.0	92.0	50.6	38.5	
70.0	94.0	40.3	33.6	
80.0	96.0	31.1	28.0	
90.0	98.0	22.8	22.0	
100.0	99.0	15.6	18.9	
9.1	10.2	146.0	145.6	31,029
8.8	15.0	145.6	141.4	
10.0	20.0	143.0	137.0	
12.0	30.0	139.5	127.8	
14.0	40.0	136.0	118.0	
16.0	50.0	132.2	107.8	
20.0	60.0	125.0	96.4	
30.0	70.0	107.8	83.6	
40.0	80.0	91.1	68.3	
50.0	85.0	76.1	58.9	
60.0	90.0	63.0	48.6	
70.0	94.0	51.7	39.4	
80.0	96.0	41.7	34.7	
90.0	98.0	32.2	29.4	
100.0	99.0	24.1	26.7	
27.8	30.0	131.1	130.5	36,200
27.2	32.0	130.0	129.5	

(System 55 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C Liq. Vap.		Pressure mm. Hg
28.0	40.0	128.4	122.5	
30.0	50.0	124.0	112.8	
35.0	60.0	114.4	101.7	
40.0	70.0	105.3	88.3	
50.0	80.0	88.9	72.2	
60.0	85.0	75.0	63.0	
70.0	90.0	62.8	52.8	
80.0	94.0	51.7	44.4	
90.0	96.0	41.4	40.0	
100.0	98.0	31.4	35.6	
47.0	54.0	107.5	107.0	41,372
50.0	60.0	105.0	102.0	
55.0	70.0	96.1	89.7	
60.0	80.0	87.8	74.1	
70.0	85.0	73.6	65.0	
80.0	88.0	61.7	58.3	
82.0	89.8	59.4	53.3	
55.7	58.0	101.7	101.0	42,406
55.0	59.0	100.6	100.6	
56.0	60.0	98.6	99.7	
58.0	65.0	94.7	95.6	
60.0	70.0	91.1	89.7	
65.0	75.0	83.3	82.5	
70.0	80.0	76.1	74.1	
73.0	84.0	70.0	66.1	
80.0	85.0	64.4	63.6	
82.0	86.0	62.5	60.8	
64.3	66.0	91.1	90.6	43,441
63.8	68.0	90.0	88.3	
65.0	70.0	87.8	85.8	
68.0	72.0	83.0	83.0	

(System 55 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C Liq. Vap.		Pressure mm. Hg
70.0	74.0	80.3	79.7	
72.0	76.0	77.6	76.1	
73.0	76.5	76.5	75.3	
0.0	0.0	64.4		5,171
3.8	24.0	51.7		
8.5	44.0	37.8		
14.5	65.9	23.9		
23.0	80.0	10.0		
31.6	88.9	-3.9		
46.0	94.5	-17.8		
67.5	98.2	-31.6		
100.0	100.0	-45.0		
0.0	0.0	95.0		10,343
7.0	27.9	79.4		
12.5	46.8	65.6		
18.0	60.0	51.7		
27.0	74.5	37.8		
37.0	84.6	23.9		
50.0	92.0	10.0		
66.0	96.8	-3.9		
91.9	99.1	-17.8		
100.0	100.0	-20.6		
0.0	0.0	108.9		15,514
11.0	33.2	93.3		
17.9	50.9	79.4		
25.1	64.0	65.6		
32.8	74.1	51.7		
43.2	83.9	37.8		
57.0	91.1	23.9		
73.2	96.1	10.0		
100.0	100.0	-5.8		

(System 55 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C Liq. Vap.	Pressure mm. Hg
0.0	0.0	132.2	20,686
7.0	15.5	121.1	
13.2	32.5	107.2	
20.5	48.0	93.3	
28.0	61.9	79.4	
37.3	72.6	65.6	
45.8	82.0	51.7	
58.3	88.9	37.8	
73.2	94.9	23.9	
100.0	100.0	7.0	
0.0	0.0	143.3	25,857
7.3	12.5	135.0	
14.6	28.2	121.1	
21.8	42.7	107.2	
29.5	56.5	93.3	
38.0	67.9	79.4	
47.7	77.8	65.6	
57.4	85.0	51.7	
72.1	92.6	37.8	
88.2	97.5	23.9	
100.0	100.0	16.7	

SYSTEM 56

Reference 33

(A) Ethane C ₂ H ₆		(B) n-Heptane C ₇ H ₁₆	
Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
6.4	77.09	111.2	5,171
12.3	77.09	135.0	10,343
26.54	26.54	242.3	35,270
29.5	77.09	172.2	31,029
37.0	77.09	176.8	41,372
58.71	58.71	190.0	57,197
70.5	77.09	150.8	64,644
96.85	96.85	49.1	43,958

SYSTEM 57-A

Reference 26

(A) Ethanol
 C_2H_6O

(B) Benzene
 C_6H_6

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
3.0	5.8	78.0	760
2.7	11.3	77.1	
3.7	20.2	75.0	
5.1	22.0	74.6	
7.25	25.2	72.8	
7.6	30.3	71.2	
10.4	34.3	70.3	
12.2	37.3	69.0	
14.4	41.9	68.5	
24.0	42.0	68.3	
32.6	42.2	68.1	
33.2	42.5	68.0	
38.2	42.6	67.9	
42.5	44.1	67.9	
47.4	44.7	67.9	
52.3	46.2	68.0	
56.4	47.7	68.0	
61.3	48.2	68.1	
66.1	49.8	68.2	
68.7	51.8	68.3	
73.0	52.4	68.6	
76.1	54.1	68.8	

SYSTEM 57-B

Reference 46

(A) Ethanol
C₂H₆O

(B) Benzene
C₆H₆

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	79.7	750
4.0	15.0	75.2	
11.0	30.0	70.8	
18.0	40.0	68.3	
43.0	44.0	67.8	
61.0	50.0	68.3	
80.0	60.0	70.1	
89.0	70.0	72.4	
94.0	80.0	74.4	
100.0	100.0	78.1	

SYSTEM 57-C

Reference 46

(A) Ethanol
C₂H₆O

(B) Benzene
C₆H₆

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	79.7	750
4.0	15.0	75.2	
11.0	30.0	70.8	
28.0	40.0	68.3	
43.0	44.0	67.8	
61.0	50.0	68.3	
80.0	60.0	70.1	
89.0	70.0	72.4	
94.0	80.0	74.4	
100.0	100.0	78.1	

SYSTEM 58

Reference 3

(A) Ethanol
 C_2H_6O

(B) Cellosolve
 $C_4H_{10}O_2$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
4.3	22.4	Not given	760
7.5	32.1		
10.8	41.6		
15.6	57.7		
16.4	57.8		
20.6	67.7		
25.8	72.8		
28.8	77.6		
35.9	80.4		
43.1	84.8		
49.4	88.5		
56.9	90.7		
63.5	93.1		
68.5	94.3		
73.9	95.1		
77.4	96.1		
80.8	96.5		
85.0	97.7		
88.6	98.5		
92.1	98.9		
94.9	99.3		
97.4	99.9		

SYSTEM 59

Reference 30

(A) Ethanol
 C_2H_6O (B) Trichloroethylene
 $C_2H_3Cl_3$

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
1.44	10.0	83.4	760
2.26	14.8	81.6	
2.82	24.0	78.7	
2.60	31.8	76.6	
5.5	35.7	74.2	
6.8	37.2	73.0	
11.3	42.0	71.6	
28.1	48.1	71.2	
51.9	52.3	70.8	
52.0	52.5	70.8	
54.2	52.8	70.8	
62.8	55.0	70.9	
71.6	56.4	71.0	
77.2	60.8	71.3	
80.8	62.6	71.4	
82.2	64.6	71.7	
85.0	65.7	72.2	
86.8	70.0	72.7	
88.6	75.2	73.0	
90.9	77.3	73.4	
92.7	82.2	74.2	
94.4	84.8	75.0	
96.4	88.9	75.6	
97.7	92.1	76.2	

SYSTEM 60-A

Reference 37

(A) Ethanol
 C_2H_6O

(B) Water
 H_2O

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
7.3	33.4	150	5,540
13.8	41.4		6,150
26.5	48.7		6,720
51.4	61.6		7,500
63.9	69.5		7,600
5.8	24.7	200	15,500
11.4	33.8		17,100
23.7	43.3		19,100
49.7	58.5		21,400
63.3	68.1		21,900
6.3	19.2	250	37,100
11.1	26.8		39,600
23.5	37.3		45,000
50.7	54.9		50,500
68.8	69.6		52,200
12.6	24.5	275	60,800
36.0	34.4		69,500
40.0	42.5		77,200

SYSTEM 60-B

Reference 47

(A) Ethanol
 $\text{C}_2\text{H}_5\text{O}$ (B) Water
 H_2O

Mole % in Liquid (A)	% in Vapor (A)	Temp. °C	Pressure mm. Hg
4.6	29.0	50.50	133
9.3	42.4	50.52	157
12.25	48.2	50.25	164
15.8	50.7	50.75	177
34.25	58.6	50.5	196
33.3	59.0	50.51	200
51.3	64.9	50.2	207
82.4	84.5	50.2	220
90.8	91.0	50.50	225
5.1	31.6	60.60	219
8.6	39.3	60.65	249
19.7	51.7	60.70	298
37.5	59.6	60.65	325
50.9	64.8	60.70	342
52.7	66.0	60.65	344
54.5	67.1	60.50	343
80.8	82.6	60.65	363
85.1	86.2	60.65	364
86.0	86.7	60.80	366
97.2	97.2	60.65	362

SYSTEM 60-C Reference 15, 57

(A) Ethanol
C₂H₆O

(B) Water
H₂O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.00	0.00	100.0	760
1.90	17.00	95.5	
7.21	38.91	89.0	
9.66	43.75	86.7	
12.38	47.04	85.3	
16.61	50.89	84.1	
23.37	54.45	82.7	
26.08	55.80	82.3	
32.73	58.26	81.5	
39.65	61.22	80.7	
50.79	65.64	79.8	
51.98	65.99	79.7	
57.32	68.41	79.3	
67.63	73.85	78.74	
74.72	78.15	78.41	
89.43	89.43	78.15	

SYSTEM 60-D

Reference 4

(A) Ethanol
 C_2H_6O

(B) Water
 H_2O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.35	2.05	50.6	95
0.45	2.75	50.3	
1.75	13.15	48.1	
5.85	30.50	45.1	
6.80	36.15	43.1	
9.35	41.10	41.7	
16.50	52.00	40.5	
21.25	54.55	40.0	
24.10	56.75	39.3	
36.15	60.60	37.5	
47.40	65.05	35.9	
49.85	65.55	36.2	
58.15	69.70	37.2	
64.60	72.90	36.5	
65.40	73.10	36.0	
70.10	76.10	--	
72.30	77.60	34.6	
79.00	82.00	37.3	
83.70	85.20	36.2	
87.31	88.17	36.7	
88.30	88.85	36.3	
88.80	89.30	36.0	
89.73	90.12	37.0	
94.89	95.02	36.3	
97.97	97.15	37.4	
98.25	98.35	35.4	
1.60	14.60	62.0	190

(System 60-D Cont.)

Mole % in		Temp. °C*	Pressure mm. Hg
Liquid (A)	Vapor (A)		
3.70	27.55	60.0	190
6.50	36.50	57.2	
9.00	41.25	55.3	
15.80	50.15	52.2	
20.90	54.55	53.0	
23.85	56.50	52.4	
35.35	60.45	50.1	
47.05	64.45	49.8	
49.70	65.40	48.9	
58.05	69.25	50.5	
65.25	72.60	48.5	
70.00	75.50	49.8	
72.00	76.85	48.7	
78.95	81.52	50.2	
84.16	85.02	49.1	
87.35	87.90	49.0	
89.70	89.90	49.8	
94.85	94.66	49.5	
96.00	95.80	47.6	
97.19	97.00	50.3	
98.12	97.98	48.6	
1.60	14.70	78.1	380
3.15	25.05	76.0	
6.00	37.65	72.4	
8.55	43.00	69.3	
14.65	50.05	67.7	
20.60	54.15	67.5	
23.60	56.00	67.1	

(*Temp. data is not precise)

(System 60-D Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C*	Pressure mm. Hg
34.95	59.45	65.3	380
46.75	64.10	64.7	
48.75	64.25	64.3	
58.00	68.90	64.4	
65.25	72.50	64.2	
70.00	74.95	63.8	
71.75	76.80	63.2	
78.90	81.11	63.8	
84.20	84.88	62.7	
87.49	87.68	62.5	
89.67	89.73	63.6	
94.83	94.40	63.5	
97.27	96.92	63.0	
20.10	52.85	85.3	760
64.90	71.95	79.0	
90.75	90.40	78.5	
94.50	94.00		

(*Temp. data is not precise)

SYSTEM 60-E

Reference 51

(A) Ethanol
C₂H₆O

(B) Water
H₂O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	38.05	50
1.97	11.0	38.15	
4.42	22.9	32.8	
6.40	33.2	30.9	
8.6	40.8	29.4	
11.1	46.8	28.15	
14.2	51.2	27.1	
16.7	54.3	26.25	
20.2	56.8	25.6	
24.0	58.1	25.05	
27.8	60.0	24.6	
32.2	61.8	24.3	
37.9	63.2	23.9	
42.5	64.8	23.6	
47.8	66.9	23.25	
54.4	69.7	22.9	
61.2	71.2	22.6	
68.7	76.8	22.25	
78.0	82.2	21.95	
88.5	89.8	21.7	
100.0	100.0	21.55	

SYSTEM 61

Reference 31

(A) Ethyl Acetate
 $C_4H_8O_2$ (B) Acetic Acid
 $C_2H_4O_2$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
2.5	4.3	Not given	750.4
2.7	4.7		
3.4	7.2		
3.5	10.0		
4.0	11.7		748.2
4.4	10.2		
6.7	17.8		
7.0	18.8		
7.5	24.0		
8.5	23.0		
10.7	32.4		764.4
12.5	37.5		759.0
14.8	40.0		
15.2	44.2		
16.4	43.8		
22.5	55.5		
30.2	64.8		
39.5	76.5		746.8
52.2	88.0		758.8
53.0	86.8		
67.5	96.0		760.8
75.0	97.8		--
89.3	99.5		760.8
91.8	99.2		--

SYSTEM 62

References 31, 94

(A) Ethyl Acetate
 $C_4H_8O_2$

(B) Ethanol
 C_2H_6O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	78.3	760
5.0	10.2	76.6	
10.0	18.7	75.5	
20.0	30.5	73.9	
30.0	38.9	72.8	
40.0	45.7	72.1	
50.0	51.6	71.8	
54.0	54.0	71.8	
60.0	57.6	71.9	
70.0	64.4	72.2	
80.0	72.6	73.0	
90.0	83.7	74.7	
95.0	91.4	76.0	
100.0	100.0	77.1	

SYSTEM 63-A

Reference 99

(A) Ethyl Bromide
 $\text{C}_2\text{H}_5\text{Br}$ (B) Benzene
 C_6H_6

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	80.25	760
7.3	20.4	74.86	
15.1	38.4	70.00	
23.4	53.0	65.39	
32.1	64.5	60.84	
41.5	74.5	56.52	
56.9	81.9	52.59	
62.4	87.8	48.78	
74.0	92.6	45.10	
86.5	96.7	41.49	
100.0	100.0	38.38	

SYSTEM 63-B

Reference 46

(A) Ethyl Bromide
 C_2H_5Br

(B) Benzene
 C_6H_6

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0	0	80.2	760
1	10	79.4	
2	20	78.5	
4	30	77.4	
6	40	76.1	
8	50	74.7	
10	60	72.8	
14	70	70.5	
21	80	66.8	
34	90	59.8	
61	97	49.2	
100	100	38.4	

SYSTEM 64-A

Reference 99

(A) Ethyl Ether (B) Carbon Tetrachloride
C₄H₁₀O C Cl₄

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	77.75	760
18.8	49.6	73.70	
34.2	69.9	69.73	
47.1	79.6	65.54	
58.0	85.8	61.44	
67.5	90.1	57.16	
75.7	93.2	53.09	
82.9	96.0	48.98	
89.2	98.0	44.84	
95.0	99.2	41.35	
100.0	100.0	34.75	

SYSTEM 64-B

Reference 46

(A) Ethyl Ether
 $C_4H_{10}O$

(B) Carbon Tetrachloride
 CCl_4

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	77.7	760
24.0	50.0	72.4	
33.0	60.0	70.2	
47.0	75.0	65.6	
60.0	85.0	60.5	
68.0	90.0	56.8	
80.0	95.0	50.6	
90.0	98.0	44.7	
100.0	100.0	34.7	

SYSTEM 65

Reference 45

(A) Ethyl Ether
 $\text{C}_4\text{H}_{10}\text{O}$ (B) Dimethoxy Methane
 $\text{C}_3\text{H}_8\text{O}_2$

Liquid (A)	Mole % in Vapor (A)	Temp. $^{\circ}\text{C}$	Pressure mm. Hg
0	--	35.0	--
10	14.09	35.0	612.9
20	26.80	35.0	640.4
30	38.22	35.0	666.5
40	48.50	35.0	690.5
50	57.90	35.0	715.0
60	66.35	35.0	731.7
70	74.65	35.0	747.3
80	82.52	35.0	760.3
90	91.04	35.0	769.6
100	--	35.0	--

SYSTEM 66

Reference 52

(A) Ethyl Ether
 $C_4H_{10}O$

(B) Methyl Iodide
 CH_3I

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	--	35.0	--
10.0	17.96	35.0	651.2
20.0	29.52	35.0	690.3
30.0	38.42	35.0	716.1
37.78	44.72	35.0	730.6
40.0	46.53	35.0	734.1
50.0	54.40	35.0	746.8
60.0	62.52	35.0	755.8
70.0	71.40	35.0	761.7
72.82	73.45	35.0	765.6
80.0	80.96	35.0	767.3
90.0	90.50	35.0	771.5
100.0	--	35.0	--

SYSTEM 67

Reference 92

(A) Ethylene Chlorohydrin (B) n-Butyl Ether
 $\text{C}_2\text{H}_5\text{Cl}$ O $\text{C}_8\text{H}_{18}\text{O}$

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
4.8	24.3	134.6	760 ± 3
11.5	40.0	129.8	
21.0	49.1	126.9	
31.3	54.9	125.0	
42.7	59.5	124.0	
54.9	64.3	123.3	
64.9	67.4	123.0	
75.5	71.0	123.0	
84.9	75.5	123.3	
92.1	82.2	123.7	
99.2	96.8	127.1	

SYSTEM 68

Reference 92

(A) Ethylene Chlorhydrin (B) β , β' Dichloro-Diethyl Ether
 C_2H_5ClO $C_4H_8Cl_2O$

Mole % in Liquid Vapor (A) (A)		Temp. $^{\circ}C$	Pressure mm. Hg
2.0	20.5	167.0	760 $\pm$ 3
4.4	38.3	160.8	
9.1	54.5	152.2	
17.1	65.0	144.6	
27.1	74.2	139.4	
39.2	80.3	135.6	
53.1	83.5	133.0	
68.1	86.3	130.4	
80.7	88.9	128.8	
86.3	89.9	128.4	
91.9	91.4	128.2	
96.0	93.4	128.2	
97.0	94.5	128.2	
98.0	96.0	128.3	

SYSTEM 69

Reference 92

(A) Ethylene Chlorohydrin
 C_2H_5ClO (B) Toluene
 C_7H_8

Mole % in Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
3.4	8.2	109.2	760 ± 3
5.5	11.2	--	
8.4	15.1	--	
10.8	17.5	107.8	
14.7	20.6	--	
18.4	22.8	--	
23.3	25.4	106.9	
28.6	27.9	--	
33.0	28.6	--	
37.8	30.1	107.0	
42.2	31.3	--	
52.7	34.4	--	
59.1	35.7	107.6	
65.4	37.9	--	
72.5	41.6	108.4	
79.0	44.4	--	
85.1	50.0	--	
92.0	63.0	113.9	
96.7	77.0	120.4	
99.2	92.7	--	

SYSTEM 70-A

Reference 17

(A) Ethylene Dichloride
C₂H₄Cl₂

(B) Toluene
C₇H₈

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
11.7	21.8	105.7	763.3
12.3	24.0	104.4	763.3
31.4	50.3	98.3	772.7
67.8	83.8	88.2	763.3
71.0	85.3	88.2	772.7

SYSTEM 70-B

Reference 47

(A) Ethylene Dichloride
 $\text{C}_2\text{H}_4\text{Cl}_2$ (B) Toluene
 C_7H_8

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
4.5	9.5	108.4	760
10.0	19.7	107.0	
23.5	40.1	102.0	
25.2	42.4	100.8	
36.5	56.5	99.3	
37.5	57.8	97.8	
41.5	61.4	96.8	
44.6	64.5	96.0	
47.9	67.4	95.9	
56.8	75.0	92.6	
58.5	76.5	92.2	
70.0	84.4	90.2	
78.4	83.3	87.7	
81.2	90.9	87.1	

SYSTEM 70-C

Reference 28

(A) Ethylene Chloride
 $C_2H_4Cl_2$

(B) Toluene
 C_7H_8

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
7.0	16.3	25.0	22
15.2	32.0		23
23.2	47.2		26
43.9	67.2		36
66.0	82.9		40
75.8	89.4		47
88.3	94.4		50

SYSTEM 71

Reference 12

(A) n-Heptane
C₇H₁₆

(B) Methyl Cyclohexane
C₇H₁₄

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
3.10	3.50	100.7	760
5.80	6.20	100.6	
9.50	10.30	100.5	
13.30	14.30	100.4	
18.00	19.20	100.3	
21.60	22.90	100.2	
27.15	28.90	100	
31.70	33.30	100	
36.30	38.10	99.9	
40.10	42.00	99.8	
45.60	47.50	99.6	
50.10	52.10	99.3	
55.90	57.80	--	
59.90	61.80	99.0	
64.70	66.60	98.9	
70.90	72.80	98.8	
75.60	77.10	--	
79.60	81.00	98.6	
84.30	85.35	98.55	
87.90	89.00	--	
90.60	91.30	--	
93.10	94.00	98.5	
95.40	96.25	--	
98.00	98.60	98.42	

SYSTEM 72-A

Reference 93

(A) n-Heptane
C₇H₁₆

(B) Toluene
C₇H₈

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.0	0.0	110.62	760
2.5	4.8	110.75	
6.2	10.7	108.60	
12.9	20.5	106.80	
18.5	27.5	105.65	
23.5	33.3	104.80	
25.0	34.9	104.5	
28.6	39.6	103.83	
35.4	45.4	102.95	
41.2	50.4	102.25	
44.8	54.1	101.78	
45.5	54.0	101.72	
49.7	57.7	101.35	
56.8	63.7	100.7	
58.0	64.7	100.6	
69.2	74.2	99.73	
84.3	86.4	98.9	
94.0	94.8	98.5	
97.5	97.6	98.4	
99.4	99.3	98.33	
100.0	100.0	98.3	

SYSTEM 72-B

Reference 12

(A) n-Heptane
 C_7H_{16} (B) Toluene
 C_7H_8

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
7.95	13.35	108.8	760
9.40	15.20		
19.85	28.70	106.4	
29.00	38.40		
35.10	43.90	103.8	
40.90	49.30		
50.05	57.85	101.8	
57.20	63.80		
67.80	72.45	100.2	
85.80	87.35		
93.00	93.70		

SYSTEM 73

Reference 97

(A) n-Hexane
C₆H₁₄

(B) Benzene
C₆H₆

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.4	0.9	78.1	729.5
2.5	6.0	77.4	729.5
4.3	8.3	77.0	729.5
7.5	15.3	76.0	736.0
21.5	33.3	72.8	736.0
43.0	54.5	69.8	735.0
71.3	75.3	67.8	734.0
76.3	79.0	67.7	736.0
88.9	89.3	67.5	735.0
96.5	96.6	67.4	734.0
99.0	99.0	67.3	735.0

SYSTEM 74

Reference 22

(A) Hydrogen
H₂(B) Isobutane
C₄H₁₀

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
2.75	86.31	37.8	25,800
5.92	91.91		51,700
8.79	94.23		77,500
11.12	95.21		103,300
14.20	95.71		129,000
17.90	95.51		155,000
2.74	69.70	65.6	25,800
6.76	82.40		51,700
8.47	86.70		77,500
12.9	88.7		103,300
16.9	87.9		129,000
19.7	90.18		155,000
2.25	40.7	93.3	25,800
7.09	61.5		51,700
10.9	71.9		77,500
15.6	75.8		103,300
19.2	75.8		129,000
24.7	56.5		155,000
8.2	37.0	121.1	51,700
11.7	40.6		64,600
16.2	42.4		77,500
24.4	24.8		103,300

SYSTEM 75

Reference 22

(A) Hydrogen
H₂

(B) Isomeric Dodecane
C₁₂H₂₆

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
3.73	99.83	93.3	27,190
6.84	99.90		52,800
12.4	99.93		104,700
16.9	99.93		156,800
21.5	99.93		208,000
25.4	99.93		260,000
4.42	98.68	148.9	27,190
7.89	99.23		52,800
14.7	99.52		104,700
20.0	99.60		156,800
25.0	99.63		208,000
29.9	99.65		260,000

SYSTEM 76

Reference 22

(A) Hydrogen
 H_2 (B) Trimethyl pentane
 C_8H_{18}

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
0.90	98.95	37.8	9,050
2.72	99.60		27,190
5.17	99.76		52,700
9.71	99.83		104,400
13.2	99.84		156,300
16.6	99.84		207,200
19.8	99.83		259,800
1.65	94.90	93.3	12,850
4.04	97.65		30,150
7.10	98.55		53,600
9.78	98.88		78,600
13.0	99.10		107,000
17.4	99.22		156,300
21.8	99.30		207,200
25.8	99.36		262,000
1.22	68.97	150.2	9,590
4.68	89.69		28,500
9.10	93.34		52,800
12.9	95.11		79,800
16.7	96.01		106,000
23.8	96.76		156,800
29.2	97.25		206,600
35.5	97.48		262,200

SYSTEM 77

Reference 65

(A) Hydrogen Chloride
Cl H

(B) n-Butane
C₄H₁₀

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
3.3	38.8	21.1	3,417
10.8	74.5		
10.8	75.7		
22.6	87.0		10,340
23.1	89.3		10,910
34.1	89.4		14,630
42.6	90.2		16,700
46.5	90.4		18,150
56.4	90.5		20,860
2.0	--	48.9	5,170
3.5	34.5		5,480
4.6	--		7,080
7.6	54.7		7,960
9.5	--		9,610
11.9	--		11,030
12.9	64.8		11,120
14.5	--		12,500
18.1	71.5		13,500
22.3	--		16,500
23.6	76.3		16,600
27.8	79.0		18,900

(System 77 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
32.3	78.5	48.9	21,400
32.4	--		21,500
3.5	24.5	82.2	10,300
2.8	23.8		10,600
5.8	43.7		13,120
7.3	38.7		13,300
9.5	46.7		15,800
11.4	49.4		16,400
13.3	55.3		18,900
15.4	56.3		19,900
19.4	58.2		24,100
20.1	58.5		25,000
22.4	59.4		27,400

SYSTEM 78

Reference 65

(A) Hydrogen Chloride
Cl H

(B) Water
H₂O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
2.00	0.08	101.5	751.3
3.10	0.16	103.1	
4.10	0.65	105.5	
4.80	1.80	107.2	
5.50	4.90	107.8	
5.60	6.30	107.6	
5.90	8.00	107.5	
6.00	9.20	107.3	

SYSTEM 79

Reference 56

(A) Hydrogen Fluoride
 F_2H_2 (B) Water
 H_2O

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
67.5	100.0	0.1	40.8
67.5	100.0	20.0	116.0
9.1	0.86	30.0	28.1
18.4	3.3	30.0	23.8
27.9	11.8	30.0	19.9
47.3	79.5	30.0	25.8
67.5	100.0	30.0	193.0
18.4	4.1	50.1	70.2
27.9	13.1	50.1	58.9
47.3	77.0	50.1	74.9
9.1	1.2	60.0	133.0
9.1	1.3	70.0	209.0
18.4	4.0	70.0	190.0
27.9	14.6	70.0	156.0
47.3	74.3	70.0	186.0

SYSTEM 80

Reference 58

(A) Methane CH ₄		(B) Isobutane C ₄ H ₁₀	
Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.28	8.40	37.8	4,130
1.14	26.9		5,171
2.98	47.8		7,750
4.90	58.9		10,324
8.81	71.1		15,500
12.0	76.0		20,600
16.4	78.8		25,820
19.8	81.2		31,000
23.2	82.3		36,200
27.0	83.0		41,300
30.9	83.9		46,500
35.2	84.3		51,715
38.9	84.1		56,900
41.6	83.8		62,000
44.9	82.6		67,250
49.1	81.8		72,400
53.9	80.0		77,500
58.9	77.8		82,700
69.0	69.2		86,800
1.31	15.8	71.1	10,324
4.75	38.2		15,500

(System 80 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
8.00	49.0		20,600
11.1	56.6		25,820
15.0	60.3		31,000
18.1	62.8		36,200
21.9	65.6		41,300
25.1	66.4		46,500
29.6	67.9		51,715
33.8	67.9		56,900
36.8	67.7		62,000
41.6	65.4		67,250
47.0	61.8		72,400
56.0	56.1		75,200
3.18	15.1	104.4	20,600
6.70	25.6		25,820
10.0	33.4		31,000
13.1	36.6		36,200
17.2	39.8		41,300
21.7	40.2		46,500
26.8	38.3		51,715
34.8	34.4		53,450

SYSTEM 81

Reference 78

(A) Methane
CH₄

(B) n-Butane
C₄H₁₀

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	21.1	1,617
0.36	20.8		2,068
1.13	45.0		3,100
1.88	58.1		4,130
2.64	65.8		5,171
4.59	76.0		7,750
6.22	81.2		10,320
10.01	86.4		15,000
13.30	88.4		20,600
17.3	89.8		26,820
20.6	91.0		31,000
28.2	92.0		41,300
35.4	92.8		51,715
42.0	92.1		62,000
43.0	91.8		64,600
48.9	91.2		72,400
51.4	90.2		77,500
54.6	89.3		82,800
59.0	88.3		87,900
60.9	88.0		90,500
62.8	87.9		93,100
66.2	85.5	37.8	95,600
71.7	82.7		98,200
77.6	77.4		99,500
0.0	0.0		2,666
0.29	13.0		3,100
1.05	34.6		4,130
1.78	45.5		5,171
3.49	62.0		7,750
5.18	70.2		10,320
8.79	78.2		15,000
11.8	83.1		20,600

(System 81 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
15.5	85.1	37.8	26,820
18.7	86.8		31,000
24.7	88.1		41,300
32.0	88.3		51,715
37.8	88.2		62,000
40.2	88.1		64,600
44.2	87.8		72,400
47.8	87.2		77,500
52.2	86.2		82,800
55.8	84.7		87,900
58.0	84.2		90,500
60.8	82.6		93,100
63.0	81.0		95,600
70.2	77.6		98,200
72.2	72.5		98,900
0.0	0.0	54.4	4,170
0.65	17.8		5,171
2.40	43.0		7,750
4.01	55.1		10,320
7.2	68.0		15,000
10.1	73.8		20,600
13.7	75.5		26,820
17.0	80.0		31,000
22.8	82.4		41,300
29.7	82.8		51,715
36.3	83.0		62,000
37.2	82.9		64,600
42.1	82.6		72,400
44.0	81.8		77,500
48.2	80.9		82,800
52.8	79.0		87,900
55.1	78.2		90,500
57.5	76.0		93,100
62.0	73.2		95,600
67.1	67.7		97,000

(System 81 Ccnt.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	71.1	6,250
0.81	16.8		7,750
2.42	36.0		10,320
5.70	52.4		15,000
8.8	61.9		20,600
11.5	67.7		26,800
15.1	71.1		31,000
20.6	74.4		41,300
26.8	75.8		51,715
33.8	76.0		62,000
35.4	75.9		64,600
40.1	75.0		72,400
42.5	74.2		77,500
46.8	73.1		82,800
51.0	70.1		87,900
54.2	68.3		90,500
57.0	63.0		93,100
61.5	62.0	87.8	
0.0	0.0		
0.79	10.7		10,320
3.61	36.4		15,000
7.09	48.1		20,600
10.0	55.0		26,800
12.3	60.0		31,000
19.2	64.5		41,300
24.9	67.2		51,715
32.0	67.9		62,000
33.8	67.8		64,600
38.0	66.1		72,400
42.5	64.3		77,500
45.9	62.0		82,800
48.9	60.0		85,300
55.0	54.8		87,800
0.0	0.0	104.4	12,580
1.80	16.0		15,000

(System 81 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
3.66	33.5	104.4	20,600
7.90	42.3		26,820
10.5	47.7		31,000
17.2	54.0		41,300
23.0	56.5		51,715
29.8	56.5		62,000
32.0	55.1		64,600
32.0	55.0		67,200
34.8	54.0		72,400
40.0	52.5		75,000
43.0	48.5		77,500
47.0	46.9		78,500
0.0	0.0		17,100
2.3	14.1		20,600
5.10	26.2		26,820
8.30	34.5		31,000
14.8	41.0		41,300
22.2	43.3		51,715
25.8	43.2		56,900
29.6	41.5		62,000
34.8	38.0		64,600
35.8	36.0		65,400

SYSTEM 82

Reference 69

(A) Methane
CH₄

(B) Decane
C₁₀H₂₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.72	99.6	37.9	1,033
1.41	99.8		2,066
2.42	99.9		3,099
2.85	99.9		4,132
3.47	99.9		5,171
6.40	99.9		10,320
12.0	99.9		20,600
17.7	99.9		31,000
22.0	99.9		41,300
26.3	99.9		51,715
32.0	99.9		64,600
36.5	99.9		77,500
40.8	99.9		90,500
44.0	99.8		103,200
48.0	99.7		116,200
52.0	99.7		129,000
55.8	99.6		142,000
57.8	99.4		155,000
61.2	99.3		168,000
63.8	99.1		181,000
67.1	98.9	37.8	194,000
68.9	98.4		206,000
72.0	98.0		220,000
74.6	97.3		232,000
77.0	96.5	71.1	245,000
80.3	95.2		258,000
86.2	93.0		271,000
0.62	98.0		1,034
1.25	99.0		2,068
1.87	99.3		3,100
2.48	99.4		4,130
3.09	99.5		5,171

(System 82 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
6.0	99.7	71.1	10,320
11.2	99.8		20,600
16.7	99.8		31,000
20.6	99.8		41,300
25.2	99.8		51,715
29.9	99.8		64,600
34.3	99.7		77,500
38.2	99.7		90,500
42.4	99.6		103,200
45.0	99.6		116,200
49.6	99.4		129,000
53.8	99.4		142,000
57.7	99.2		155,000
59.1	99.0		168,000
62.3	98.7		181,000
65.2	98.3		194,000
68.6	97.8		206,000
71.2	97.3		220,000
74.8	96.6		232,000
78.4	95.5		245,000
82.6	93.9		258,000
0.52	91.9	104.4	1,034
1.09	95.7		2,068
1.66	97.2		3,100
2.20	97.7		4,130
2.75	98.2		5,171
5.42	98.9		10,320
10.5	99.3		20,600
15.3	99.4		31,000
19.6	99.4		41,300
23.8	99.5		51,715
27.8	99.5		64,600
33.4	99.4		77,500
36.9	99.4		90,500
41.6	99.2		103,200

(System 82 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
44.2	99.1	104.4	116,200
47.6	98.9		129,000
52.0	98.7		142,000
55.2	98.5		155,000
57.8	98.2		168,000
61.9	97.8		181,000
64.2	97.3		194,000
68.6	96.8		206,000
72.0	95.7		220,000
76.0	94.8		232,000
79.2	93.0		245,000
0.39	74.3	137.8	1,034
0.92	86.4		2,068
1.43	91.1		3,100
1.94	93.1		4,130
2.46	94.3		5,171
4.90	96.8		10,320
9.81	98.0		20,600
14.6	98.5		31,000
18.4	98.7		41,300
22.3	98.8		51,715
27.2	98.8		64,600
33.2	98.8		77,500
37.6	98.7		90,500
40.2	98.5		103,200
44.1	98.2		116,200
47.3	98.0		129,000
51.8	97.6		142,000
56.1	97.3		155,000
57.9	96.8		168,000
61.8	96.0		181,000
65.3	95.3		194,000
70.0	94.3		206,000
74.0	93.0		220,000
80.2	89.8		245,000

(System 82 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.17	32.3	171.1	1,034
0.67	65.1		2,068
1.17	76.4		3,100
1.67	81.8		4,130
2.16	85.2		5,171
4.80	91.7		10,324
9.55	95.2		20,600
13.9	96.4		31,000
18.3	96.9		41,300
22.1	97.1		51,715
26.8	97.3		64,600
32.0	97.2		77,500
35.9	97.0		90,500
40.6	96.7		103,200
44.0	96.4		116,200
48.1	95.8		129,000
52.2	95.7		142,000
57.1	94.9		155,000
60.0	94.1		168,000
64.1	93.4		181,000
68.8	91.1	204.4	194,000
73.9	88.2		206,000
0.23	21.2		2,068
0.75	45.0		3,100
1.27	58.5		4,130
1.79	67.2		5,171
4.58	82.0		10,324
9.60	89.8		20,600
14.2	92.1		31,000
18.3	93.7		41,300
22.1	93.7		51,715
27.7	94.0		64,600
32.7	94.1		77,500
37.3	94.0		90,500
41.0	93.7		103,200

(System 82 Cont.)

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
45.1	93.2	204.4	116,200
50.0	92.3		129,000
55.3	91.6		142,000
59.7	90.6		155,000
64.7	88.7		168,000
72.6	85.7		181,000
0.46	18.2	237.8	4,130
1.04	33.9		5,171
4.03	64.0		10,324
9.6	79.2		20,600
14.8	85.2		31,000
19.8	87.3		41,300
23.9	88.2		51,715
29.0	88.8		64,600
34.1	88.9		77,500
38.2	88.7		90,500
42.5	88.2		103,200
47.6	87.2		116,200
55.0	85.2		129,000
62.4	82.2		142,000

SYSTEM 83

Reference 58

(A) Methane
CH₄

(B) n-Pentane
C₅H₁₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	37.8	810
0.149	20.9		1,034
0.862	59.3		2,068
1.56	71.8		3,102
2.20	78.0		4,136
2.90	82.0		5,171
4.61	87.2		7,750
6.22	89.8		10,324
9.72	91.8		15,500
12.0	93.4		20,600
19.0	94.3		31,000
24.9	94.7		41,300
30.3	94.8		51,715
38.2	94.7		64,700
43.2	94.4		77,500
50.2	93.4		90,500
57.7	92.0		103,400
67.3	90.0		116,200
82.6	82.8		126,900
0.0	0.0	71.1	2,190
0.540	27.8		3,102

(System 83 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
1.16	44.8	71.1	4,136
1.79	55.0		5,171
3.22	68.8		7,750
4.74	75.8		10,324
7.80	82.1		15,500
10.4	85.1		20,600
16.1	88.0		31,000
21.9	89.3		41,300
27.0	89.4		51,715
34.0	89.4		64,700
40.0	89.1		77,500
46.9	88.0		90,500
54.9	85.7		103,400
66.2	82.0		116,200
76.1	76.4		120,800
0.0	0.0	104.4	4,903
0.149	4.61		5,171
1.62	33.1		7,750
2.99	47.2		10,324
5.80	61.7		15,500
8.81	68.0		20,600
14.2	75.8		31,000
20.0	79.2		41,300
24.2	80.0		51,715

(System 83 Cont.)

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
31.2	80.0	104.4	64,700
38.8	79.8		77,500
45.0	76.0		90,500
56.5	74.3		10,324
66.6	67.0		107,900
0.0	0.0	137.8	9,600
0.43	4.56		10,324
3.30	29.9		15,500
6.20	42.5		20,600
11.2	54.8		31,000
16.9	61.2		41,300
22.3	63.9		51,715
30.0	64.0		64,700
41.0	60.0		77,500
52.3	52.3		83,300
0.0	0.0	171.1	17,020
2.42	9.45		20,600
8.91	27.8		31,000
15.3	35.8		41,300
25.6	34.0		51,715
29.2	29.3		53,000

SYSTEM 84-A

Reference 79

(A) Methane
 CH_4 (B) Propane
 C_3H_8

Mole % in Liquid Vapor (A) (A)		Temp. $^{\circ}\text{C}$	Pressure mm. Hg
0.8	13.2	20.0	7,600
6.2	50.5		15,400
11.6	61.9		22,800
17.6	68.1		30,400
23.6	71.4		38,000
29.8	72.8		45,500
36.3	73.6		53,100
43.6	73.4		60,800
52.4	71.4		68,400
58.3	69.0		72,100
0.7	7.9	40.0	11,400
3.5	27.3		15,400
9.2	45.1		22,800
14.9	54.2		30,400
20.8	59.2		38,000
26.6	61.5		45,500
32.9	62.2		53,100
39.5	62.1		60,800
43.9	61.4		64,500
50.6	59.3		68,400

(System 84-A Cont.)

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.5	3.7	55.0	15,400
5.5	29.2		22,800
10.8	40.1		30,400
16.7	47.0		38,000
22.8	51.1		45,500
29.2	52.4		53,100
32.6	52.1		57,000
37.5	50.1		60,800
2.1	10.3	70.0	22,800
7.4	25.2		30,400
13.0	33.6		38,000
19.9	38.8		45,500
24.1	39.2		49,400
2.0	8.5	80.0	36,600
2.8	27.4		41,800
4.6	14.9		30,400
10.6	24.3		38,000
18.3	27.3		45,500
1.0	4.4	90.0	30,400
3.8	12.1		34,200
6.9	15.2		38,000

SYSTEM 84-B

Reference 103

(A) Methane
CH₄

(B) Propane
C₃H₈

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	-15.0	2,170
12.3	80.3		16,220
25.0	86.5		31,000
37.2	88.7		45,900
45.7	88.9		53,600
47.9	88.7		56,600
0.0	0.0	10.0	4,860
5.7	46.9		10,400
12.2	65.4		19,400
18.3	73.6		29,800
26.6	77.6		40,000
32.7	78.7		47,400
41.8	78.8		57,300
45.0	78.3		62,600
0.0	0.0	30.0	8,430
2.4	23.3		11,400
5.9	41.8		16,080
10.0	52.0		21,700
13.6	58.2		26,400
16.6	61.6		30,200
22.9	66.1		38,400
25.5	67.2		41,800
27.9	67.8		44,400
31.4	68.4		49,000
33.6	68.7		50,800

(System 84-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
35.5	68.8	30.0	53,700
45.2	68.4		63,700
0.0	0.0	65.0	17,600
3.2	15.8		22,500
4.7	21.1		24,800
9.6	32.3		31,800
13.6	38.0		37,100
18.4	42.0		42,800
23.3	43.8		48,300
0.0	0.0	45.0	11,480
4.6	29.5		18,000
11.0	45.4		26,800
14.9	50.7		32,000
15.1	50.9		32,200
17.8	53.6		35,700
19.2	54.7		37,600
19.4	54.8		37,900
23.0	56.8		42,400
25.0	57.5		45,000
25.8	57.7		46,200
29.7	58.4		50,700
0.0	0.0	90.0	28,200

SYSTEM 85-A

Reference 85

(A) Methanol
CH₄O

(B) Benzene
C₆H₆

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
2.42	27.33	35	203.29
2.54	31.28		211.10
13.02	48.58		274.25
31.07	53.04		288.47
49.89	55.46		292.50
51.91	55.71		292.70
63.05	57.90		292.49
79.65	64.21		283.58
91.97	76.88		255.82
3.04	30.19	55	465.84
4.93	40.51		527.12
10.31	48.41		597.48
32.97	55.40		664.24
48.74	58.45		675.62
49.84	58.58		675.99
60.76	60.78		678.44
78.96	67.16		664.91
90.14	76.97		622.29
47.42	53.43	25	182.70
52.34	57.52	45	451.98

SYSTEM 85-B

Reference 30

(A) Methanol
 CH_4O (B) Benzene
 C_6H_6

Mole % in Liquid Vapor (A) (A)		Temp. $^{\circ}\text{C}$	Pressure mm. Hg
2.8	31.0	69.4	760
5.0	39.5	66.8	
5.7	42.0	65.7	
9.0	48.5	61.4	
11.8	56.5	59.0	
12.0	56.0	59.2	
27.0	57.5	58.0	
44.0	58.5	57.8	
58.6	61.0	57.7	
69.5	62.5	57.6	
81.7	65.5	58.1	
88.3	70.0	58.9	
90.2	73.0	59.6	
93.4	80.1	60.4	
94.5	82.2	61.2	
96.8	90.0	62.4	
98.8	94.2	63.4	

SYSTEM 86

Reference 85

(A) Methanol
 CH_4O (B) Carbon Tetrachloride
 C Cl_4

Mole % in Liquid (A) Vapor (A)		Temp. $^{\circ}\text{C}$	Pressure mm. Hg
48.80	48.38	25.0	205.30
1.69	32.97	35.0	259.13
1.89	33.74		262.31
2.54	36.19		580.66
5.79	36.39		591.16
13.49	46.30		315.12
14.93	49.81		716.95
35.60	49.15		324.64
36.47	52.84		741.36
47.76	50.30		325.71
48.93	54.31		745.60
49.39	50.56		325.71
49.46	54.38		745.72
64.48	56.86		744.54
65.57	53.02		323.81
79.03	61.87		724.28
79.12	57.92		312.61
90.87	73.37		658.37
91.20	70.24		277.37
48.66	52.31	45.0	500.13

SYSTEM 87

Reference 44

(A) Methanol
CH₄O

(B) Ethanol
C₂H₆O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	Not given	760
5.4	10.1		
11.7	19.0		
20.0	26.0		
25.0	34.0		
30.5	41.5		
37.0	48.5		
43.0	55.0		
48.0	62.5		
53.0	66.0		
59.0	70.5		
63.0	74.0		
67.0	78.0		
72.0	83.0		
76.5	85.2		
82.0	87.5		
85.7	90.0		
89.0	93.0		
93.0	95.2		
96.3	98.0		
100.0	100.0		

SYSTEM 88

Reference 28

(A) Methyl Alcohol
CH₄O

(B) Ethylene Chloride
C₂H₄Cl₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	82.1	760
0.2	3.4	73.4	
0.7	8.5	65.2	
2.3	12.3	61.4	
5.0	14.4	60.6	
12.2	16.2	60.2	
21.2	18.6	60.1	
32.2	23.4	60.4	
47.5	31.6	61.2	
69.0	50.0	62.3	
100.0	97.2	63.7	

SYSTEM 89

Reference 30

(A) Methanol
CH₄O

(B) Trichloroethylene
C₂H₃Cl₃

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.1	4.50	83.5	760
2.8	18.8	78.2	
3.2	25.4	75.3	
3.2	32.8	72.6	
4.0	36.0	70.1	
4.5	44.3	67.3	
5.1	47.2	66.1	
5.1	52.3	64.1	
9.4	60.0	60.9	
23.7	64.4	60.4	
30.0	64.2	60.1	
34.8	64.0	60.1	
57.6	66.0	59.6	
64.6	67.0	59.4	
72.4	68.9	59.4	
82.0	72.9	59.5	
88.8	77.8	60.1	
90.2	80.0	60.4	
92.4	82.0	60.7	
94.4	84.6	61.0	
95.1	87.0	61.4	
96.4	90.2	61.8	
98.0	93.3	62.5	
99.2	96.3	63.3	

SYSTEM 90-A

References 20, 25, 101

(A) Methanol
CH₄O

(B) Water
H₂O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	100.0	760
2.0	13.4	96.4	
4.0	23.0	93.5	
6.0	30.4	91.2	
8.0	36.5	89.3	
10.0	41.8	87.7	
15.0	51.7	84.4	
20.0	57.9	81.7	
30.0	66.5	78.0	
40.0	72.9	75.3	
50.0	77.9	73.1	
60.0	82.5	71.2	
70.0	87.0	69.3	
80.0	91.5	67.6	
90.0	95.8	66.0	
95.0	97.9	65.0	
100.0	100.0	64.5	

SYSTEM 90-B

Reference 61

(A) Methanol
CH₄O

(B) Water
H₂O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
1.3	9.5	64.8	200
2.5	17.0	63.1	
6.4	36.3	59.2	
15.6	59.0	52.0	
27.4	69.6	47.3	
42.8	78.6	43.3	
54.3	84.8	40.9	
62.5	87.2	39.5	
72.2	90.5	38.1	
79.5	93.7	37.1	
88.5	96.6	35.8	
3.3	21.0	74.7	350
5.1	30.1	72.6	
10.6	47.8	67.6	
17.9	60.0	63.2	
25.6	67.1	59.6	
33.9	72.6	57.3	
44.5	78.6	55.0	
52.3	81.4	53.2	
62.4	86.2	51.3	
74.9	91.5	49.0	

(System 90-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
87.4	95.9	47.4	350
2.5	16.3	85.0	500
5.5	31.0	80.2	
11.4	48.4	75.4	
21.2	62.2	70.0	
32.5	69.6	66.5	
46.3	78.2	63.1	
52.3	80.4	62.0	
61.4	84.5	59.7	
70.9	88.7	58.7	
77.2	91.3	57.7	
88.0	95.8	56.0	
4.6	26.7	92.7	760
9.4	40.2	88.1	
15.7	53.3	84.0	
21.7	60.2	80.8	
32.1	68.0	77.4	
42.5	74.5	74.8	
53.4	79.1	72.4	
63.2	82.9	70.5	
72.7	88.3	68.7	
81.7	92.0	67.3	
89.1	95.6	66.1	

SYSTEM 90-C

Reference 62

(A) Methanol
CH₄O

(B) Water
H₂O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
14.50	47.00	82.6	760
20.50	54.50	79.6	
26.00	60.00	77.2	
40.00	70.50	73.8	
55.50	79.50	71.0	
71.30	87.20	68.5	
88.50	95.10	65.9	

SYSTEM 91

Reference 52

(A) Methyl Acetate
C₃H₆O₂

(B) Benzene
C₆H₆

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0	0	35.0	
10	30.37	35.0	195.8
20	44.83	35.0	226.2
30	54.14	35.0	248.2
40	61.58	35.0	265.6
50	67.85	35.0	280.8
52.73	69.40	35.0	283.7
60	74.08	35.0	294.6
70	80.40	35.0	307.6
73.99	82.84	35.0	312.6
80	86.60	35.0	320.1
90	93.49	35.0	334.7
100		35.0	
0	0	25.0	
10	32.32	25.0	131.3
20	46.61	25.0	152.5
30	55.31	25.0	167.3
40	62.10	25.0	178.7
50	68.10	25.0	188.3
52.23	69.22	25.0	190.3
60	73.80	25.0	197.1
70	80.07	25.0	205.3
73.99	83.00	25.0	206.8
80	86.40	25.0	213.1
90	93.07	25.0	220.3
100	100	25.0	

SYSTEM 92

Reference 26

(A) Methylcyclohexane
 C_7H_{14} (B) Phenol
 C_6H_6O

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
11.40	67.75	150.0	760
26.2	87.1	130.0	
38.0	88.4	120.0	
65.2	90.87	112.2	
83.69	96.68	102.8	
90.20	97.38	102.2	
90.26	94.84	105.6	
93.50	97.92	101.7	
94.86	98.28	101.7	
95.18	96.83	102.5	
96.10	97.41	102.2	
97.5	99.17	101.1	
98.31	99.42	101.1	
98.74	99.14	101.7	
99.52	99.63	101.1	

SYSTEM 93

Reference 68

(A) Methylcyclohexane
C₇H₁₄

(B) Toluene
C₇H₈

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	110.6	760
5.0	7.5		
10.0	14.3		
15.0	21.0		
20.0	27.0		
25.0	32.6		
30.0	37.8		
35.0	42.4		
40.0	47.0		
45.0	51.5		
50.0	56.0		
55.0	60.4		
60.0	65.0		
65.0	69.4		
70.0	73.7		
75.0	77.8		
80.0	81.8		
85.0	86.0		
90.0	90.6		
95.0	95.4		
100.0	100.0	100.85	

SYSTEM 94

Reference 38

(A) Methylcyclopentane
C₆H₁₂

(B) Benzene
C₆H₆

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
2.97	5.26	79.64	760
10.80	16.68	77.62	
17.51	25.33	76.62	
30.17	38.70	74.85	
38.06	45.98	74.00	
44.50	51.79	73.43	
50.31	56.73		
57.37	62.55	72.84	
64.34	67.95	72.06	
72.06	74.42	71.97	
78.55	79.86		
82.24	82.99	71.54	
84.41	84.99		
87.21	87.54		
90.30	90.34	71.47	
91.80	91.74	71.53	
92.95	92.87		
93.73	93.60	71.65	
95.18	95.03	71.80	
96.13	96.02		

SYSTEM 95

Reference 93

(A) Methyl Ethyl Ketone
C₄H₈O

(B) Benzene
C₆H₆

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.00	0.00	80.2	760
0.60	0.70	80.2	
1.2	1.5	80.2	
3.7	4.9	79.85	
6.5	7.9	79.65	
8.8	10.6	79.45	
11.2	13.1	79.25	
13.1	15.1	79.15	
15.7	17.7	79.05	
20.2	22.2	78.8	
27.4	29.0	78.45	
32.6	33.8	78.55	
41.6	41.9	78.35	
46.3	46.2	78.35	
51.1	50.7	78.33	
55.0	54.3	78.3	
60.6	59.5	78.33	
63.5	62.3	78.3	
66.5	65.2	--	
75.3	74.0	78.55	
87.7	86.5	78.95	
94.3	93.7	79.25	
98.6	98.5	79.40	
100.0	100.0	79.45	

SYSTEM 96

Reference 93

(A) Methyl Ethyl Ketone
 C_4H_8O (B) n-Heptane
 C_7H_{16}

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.0	0.0	98.3	760
0.33	6.0	96.1	
2.7	14.1	93.7	
7.4	28.5	89.4	
12.2	37.55	86.4	
23.0	49.50	82.25	
35.4	57.2	79.95	
36.9	57.8	80.05	
47.5	63.2	78.35	
50.7	64.5	78.2	
61.15	69.1	77.45	
70.6	73.6	77.15	
76.5	76.85	77.0	
86.4	83.2	77.25	
93.2	90.8	78.10	
97.3	95.4	78.70	
99.4	98.7	79.05	
100.0	100.0	79.45	

SYSTEM 97

Reference 93

(A) Methyl Ethyl Ketone
C₄H₈O

(B) Toluene
C₇H₈

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.00	0.00	110.6	760
0.45	1.40	110.2	
0.85	2.90	109.88	
1.75	5.55	109.25	
4.05	12.81	107.2	
8.50	23.50	104.2	
11.90	30.43	102.28	
15.33	35.36	---	
18.00	39.50	99.55	
19.81	42.00	98.70	
23.59	47.09	97.10	
31.27	55.21	94.3	
39.82	62.80	91.85	
46.82	68.54	89.9	
54.79	74.28	87.85	
58.58	77.08	86.75	
64.20	80.27	85.8	
69.24	83.42	84.85	
70.12	83.96	84.4	
78.46	88.58	83.15	
80.15	89.55	82.65	
86.11	92.81	81.80	
93.50	96.29	80.50	
97.74	98.78	79.85	
99.39	99.54	79.5	
100.00	100.00	79.45	

SYSTEM 98

Reference 61

(A) Methyl Ethyl Ketone
C₄H₈O

(B) Water
H₂O

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	66.4	200
3.8	70.9	41.3	
Two phases in Liquid	72.2	39.9	
67.4	72.6	39.8	
77.7	75.0	39.9	
81.3	76.3	40.0	
90.3	82.5	40.6	
100.0	100.0	41.5	
0.0	0.0	--	350
2.9	67.3	57.0	
Two phases in Liquid	70.0	52.7	
65.3	69.8	52.7	
67.1	70.1	52.7	
79.6	73.2	52.8	
91.9	83.8	54.3	
100.0	100.0	56.0	
0.0	0.0	88.6	500
3.4	65.2	64.8	

(System 98 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
Two phases in Liquid	68.0	62.0	500
66.9	68.1	62.0	
70.4	69.1	62.0	
73.1	69.7	62.0	
77.8	71.2	62.2	
83.7	74.1	62.5	
86.0	76.3	62.7	
90.6	80.8	63.5	
100.0	100.0	66.3	
0.0	0.0	100.0	760
4.8	64.4	73.9	
Two phases in Liquid	65.4	73.3	
66.9	65.8	73.3	
73.1	67.6	73.4	
80.0	69.7	73.6	
84.2	72.4	74.0	
86.4	74.8	74.3	
88.4	76.9	74.8	
91.3	80.8	75.6	
100.0	100.0	79.6	

SYSTEM 99

Reference 45

(A) 2-Methyl furan
C₅H₆O

(B) Furfural
C₅H₄O₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
7.4	64.8	130.0	738.0
9.7	75.2	121.0	
13.4	84.4	110.0	
23.4	91.9	92.0	
35.0	95.8	80.0	
42.0	97.0	76.0	
54.2	98.0	71.0	
66.2	98.8	65.0	

SYSTEM 100

Reference 52

(A) Methyl Iodide
CH₃I

(B) Benzene
C₆H₆

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0		35.0	
10	32.39	35.0	200.0
20	51.40	35.0	248.1
30	64.00	35.0	294.3
40	73.00	35.0	339.0
50	79.80	35.0	382.2
60	85.30	35.0	424.3
70	89.62	35.0	465.5
80	93.37	35.0	507.1
90	97.00	35.0	547.0
100		35.0	

SYSTEM 101

Reference 52

(A) Methyl Iodide
CH₃I

(B) Chloroform
CHCl₃

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0			
10	19.25	35.0	331.1
20	34.20	35.0	364.0
30	46.15	35.0	391.2
40	56.20	35.0	421.1
50	65.55	35.0	446.4
60	74.38	35.0	472.9
70	81.51	35.0	501.5
80	88.50	35.0	529.8
90	94.51	35.0	558.6
100			

SYSTEM 102

Reference 64

(A) Methyl Vinyl Carbinol Acetate $C_6H_{10}O_2$ (B) Acetic Acid $C_2H_4O_2$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	117.8	760
3.8	4.6	117.1	
5.9	8.0	116.8	
9.1	11.9	116.4	
18.2	22.2	115.7	
21.0	25.0	115.5	
30.7	35.2	114.9	
38.7	43.5	114.4	
44.2	48.6	114.1	
56.3	61.5	113.3	
69.4	74.2	112.7	
78.7	82.2	112.3	
87.5	90.0	112.0	
92.3	94.3	111.9	
100.0	100.0	111.8	

SYSTEM 103

Reference 64

(A) Methyl Vinyl Carbinol Acetate
 $C_6H_{10}O_2$

(B) levo-2,3-Butylene Glycol
 $C_4H_{10}O_2$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	179.0	760
0.8	10.0	175.5	
2.4	24.8	170.4	
4.7	54.8	156.0	
6.9	63.5	150.4	
11.6	72.5	141.2	
17.9	80.4	133.9	
31.2	88.0	125.5	
46.4	91.7	120.5	
75.7	97.5	114.9	
86.5	98.6	114.0	
88.3	98.8	113.5	
100.0	100.0	111.8	

SYSTEM 104

Reference 46

(A) Nitric Acid
HNO₃

(B) Water
H₂O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
8.36	0.627	106.5	760
12.3	1.76	112.0	
22.1	6.60	118.5	
30.8	16.6	121.6	
38.3	38.3	121.9	
40.2	60.2	121.0	
46.5	75.9	118.0	
53.0	89.1	112.0	
61.5	92.1	99.0	

SYSTEM 105

Reference 46

(A) Nitrogen
N₂

(B) Argon
A

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.0	0.0	-189.7	500
10.0	29.6	-191.7	
30.0	59.0	-194.3	
60.0	82.7	-196.9	
80.0	92.2	-198.1	
100.0	100.0	-199.2	
0.0	0.0	-185.9	760
10.0	26.5	-187.9	
30.0	56.4	-190.5	
60.0	81.0	-193.3	
80.0	91.4	-194.6	
100.0	100.0	-195.8	
0.0	0.0	-183.2	1000
10.0	25.0	-185.2	
30.0	54.5	-187.9	
60.0	79.6	-190.7	
80.0	91.3	-192.2	
100.0	100.0	-193.4	
0.0	0.0	-179.4	1500
10.0	22.5	-180.8	
30.0	51.0	-183.6	
60.0	78.5	-186.7	
80.0	90.5	-188.2	
100.0	100.0	-189.6	

SYSTEM 106

Reference 11

(A) Nitrogen
N₂

(B) n-Heptane
C₇H₁₆

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
12.0	88.0	98.96	1.04	25.0	76,700
12.8	87.2	98.24	1.76	55.0	76,700
13.96	86.04	97.46	2.54	85.0	76,700
14.98	85.02	94.95	5.05	115.0	76,700

SYSTEM 107-A

Reference 24

(A) Nitrogen
N₂

(B) Oxygen
O₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
3.85	13.97	Not given	760
8.02	26.10		
12.40	36.60		
17.05	46.00		
22.20	54.20		
27.73	61.60		
33.8	67.95		
40.47	73.74		
47.83	78.95		
56.62	84.35		
66.65	88.95		
78.40	93.50		
91.90	97.70		
4.0	9.0	Not given	3,800
12.0	27.0		
22.0	42.0		
33.0	56.0		
46.0	69.0		
61.0	80.5		
69.0	85.5		
79.0	91.0		
90.0	96.0		
4.04	9.0	-165.7	3,800
11.5	26.9	-167.5	
21.9	41.6	-169.5	
32.4	56.0	-171.5	
45.0	69.6	-173.5	
61.5	81.2	-175.4	
69.8	85.7	-176.3	
79.8	91.3	-177.4	
90.0	96.0	-178.4	

SYSTEM 107-B

Reference 23

(A) Nitrogen
N₂

(B) Oxygen
O₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	-198.0	110
5.0	26.0		137
10.0	41.65		163
20.0	60.05		214
30.0	70.70		264
40.0	77.93		313
50.0	83.33		360
60.0	87.96		405
70.0	91.30		449
80.0	94.48		491
90.0	97.35		532
100.0	100.0		575
0.0	0.0	-193.0	230
5.0	22.05		276
10.0	36.75		318
20.0	55.30		405
30.0	66.86		502
40.0	74.05	-193.0	574
50.0	81.07		655
60.0	86.0		732
70.0	90.17		809

(System 107-B Cont.)

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
80.0	93.79	-193.0	884
90.0	97.03		954
100.0	100.0		1,022
0.0	0.0	-188	432
5.0	18.0		504
10.0	32.7		572
20.0	51.24		714
30.0	63.23		850
40.0	71.98		982
50.0	78.72		1,110
60.0	84.25		1,240
70.0	88.92		1,360
80.0	93.99		1,480
90.0	96.65		1,600
100.0	100.0		1,705
0.0	0.0	-183.0	754
5.0	16.9		861
10.0	29.6		963
20.0	47.65		1,177
30.0	59.98		1,380
40.0	69.21		1,580
50.0	76.48		1,780
60.0	82.49		1,970

(System 107-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
- 70.0	88.64	-183.0	2,160
80.0	92.16		2,340
90.0	96.23		2,530
100.0	100.0		2,690
0.0	0.0	-178.0	1,222
5.0	15.15		1,374
10.0	27.05		1,540
20.0	44.50		1,840
30.0	57.05		2,140
40.0	66.60		2,430
50.0	74.32		2,710
60.0	80.76		2,990
70.0	86.35		3,260
80.0	91.32		3,540
90.0	95.83		3,810
100.0	100.0		4,040
0.0	0.0	-173.0	1,910
5.0	13.85		2,120
10.0	25.00		2,340
20.0	42.17		2,760
30.0	54.45		3,170
40.0	64.25		3,570
50.0	72.28		3,970

(System 107-B Cont.)

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
60.0	79.11	-173.0	4,350
70.0	85.10		4,740
80.0	90.49		5,120
90.0	95.41		5,500
100.0	100.0		5,830
0.0	0.0	-168.0	2,850
5.0	22.7		3,120
10.0	23.2		3,410
20.0	39.55		3,980
30.0	51.97		4,520
40.0	61.9		5,050
50.0	70.2		5,570
60.0	77.38		6,100
70.0	83.75		6,630
80.0	89.55		7,155
90.0	94.92		7,710
100.0	100.0		8,190
0.0	0.0	-163.0	4,090
5.0	11.80		4,460
10.0	21.65		4,820
20.0	37.50		5,530
30.0	49.70		6,240
40.0	59.67		6,930

(System 107-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
50.0	68.16	-163.0	7,610
60.0	75.62		8,300
70.0	82.45		8,990
80.0	88.57		9,700
90.0	94.41		10,420
100.0	100.0		11,070
0.0	0.0	-158.0	5,720
5.0	10.70		6,160
10.0	19.90		6,630
20.0	35.10		9,520
30.0	47.17		8,390
40.0	57.30		9,250
50.0	66.01		10,100
60.0	73.80		11,000
70.0	80.92		11,900
80.0	87.55		12,800
90.0	93.86		13,720
100.0	100.0		14,640
0.0	0.0	-153.0	7,770
5.0	9.95		8,330
10.0	18.50		8,850
20.0	33.20		9,910
30.0	45.20		10,980

(System 107-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
40.0	55.36	-153.0	12,070
50.0	64.22		13,170
60.0	72.20		14,200
70.0	79.36		15,400
80.0	86.33		16,500
90.0	93.21		17,700
100.0	100.0		19,050
0.0	0.0	-148.0	10,240
5.0	9.10		10,920
10.0	18.30		11,540
20.0	31.45		12,800
30.0	43.30		14,100
40.0	53.35		15,400
50.0	62.20		16,700
60.0	70.20		18,100
70.0	77.74		19,400
80.0	85.05		20,900
90.0	92.38		21,640
100.0	100.0		24,220
0.0	0.0	-188.99	380
5.0	19.80	-190.29	
10.0	35.45	-191.29	
20.0	55.85	-193.53	

(System 107-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
30.0	68.50	-195.13	380
40.0	77.05	-196.45	
50.0	83.13	-197.56	
60.0	87.84	-198.50	
70.0	91.53	-199.30	
80.0	94.76	-200.0	
90.0	97.51	-200.6	
100.0	100.0	-201.09	
0.0	0.0	-182.83	760
5.0	17.35	-184.09	
10.0	31.00	-185.33	
20.0	50.81	-187.38	
30.0	64.05	-189.06	
40.0	73.50	-190.46	
50.0	70.46	-191.65	
60.0	85.91	-192.67	
70.0	90.31	-193.56	
80.0	93.94	-194.34	
90.0	97.17	-195.02	
100.0	100.0	-195.65	
0.0	0.0	-164.07	3,800
5.0	12.25	-165.32	
10.0	22.75	-166.51	

(System 107-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
20.0	39.85	-168.64	3,800
30.0	53.19	-170.49	
40.0	63.85	-172.12	
50.0	62.50	-173.56	
60.0	79.70	-174.85	
70.0	85.85	-176.01	
80.0	91.19	-177.06	
90.0	95.83	-178.02	
100.0	100.0	-178.77	
0.0	0.0		7,600
5.0	10.10	-154.33	
10.0	19.15	-155.55	
20.0	35.05	-156.66	
30.0	48.05	-158.77	
40.0	59.00	-159.69	
50.0	68.17	-161.44	
60.0	76.17	-163.03	
70.0	83.15	-164.48	
80.0	89.36	-165.81	
90.0	94.94	-168.04	
100.0	100.0	-169.06	
0.0	0.0	-145.96	11,420
5.0	--	-147.19	

(System 107-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
10.0	17.45	-148.22	11,420
20.0	32.40	-150.30	
30.0	45.00	-152.25	
40.0	55.73	-154.08	
50.0	65.14	-155.76	
60.0	73.58	-157.33	
70.0	81.15	-158.18	
80.0	88.00	-160.15	
90.0	94.24	-161.41	
100.0	100.0	-162.47	
0.0	0.0	-140.14	14,200
10.0	16.2	-142.34	
20.0	30.30	-144.38	
30.0	42.75	-146.36	
40.0	53.30	-148.24	
50.0	63.50	-150.0	
60.0	72.30	-151.66	
70.0	80.28	-153.21	
80.0	87.45	-154.68	
90.0	94.00	-156.06	
100.0	100.0	-157.33	

SYSTEM 108

Reference 46

(A) Nitrogen Tetraoxide
 N_2O_4

(B) Nitric Acid
 HNO_3

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	78.5	760
3.5	58.0	65.0	
7.8	77.0	55.0	
20.3	99.9	33.0	
100.0	100.0	22.0	

SYSTEM 109

Reference 88

(A) Nitromethane
CH₃NO₂

(B) Isopropyl Alcohol
C₃H₈O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (B)	Vapor (B)		
2.80	17.0	Not given	760
6.30	31.5		
11.4	42.5		
17.1	48.3		
17.4	49.0		
23.2	53.4		
24.0	54.2		
31.5	57.8		
40.9	60.0		
42.3	61.7		
47.5	63.6		
47.6	63.0		
53.7	65.4		
58.8	66.4		
58.9	66.8		
52.5	67.8		
67.0	69.2		
67.1	69.3		
70.6	71.1		
74.5	73.0		
77.8	75.1		
78.8	75.4		
81.3	77.4		
85.1	79.8		
88.0	81.2		
90.8	84.8		

SYSTEM 110

Reference 26

(A) Isononane
 C_9H_{20} (B) Phenol
 C_6H_6O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
96.48	96.59	126.1	760
99.36	99.36	124.4	
99.71	99.71	124.4	

SYSTEM 111

Reference 26

(A) Iso-octane
 C_8H_{18}

(B) Phenol
 C_6H_6O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
23.80	88.40	125.6	760
42.70	93.64	113.3	
66.60	91.40	107.8	
90.15	94.59	103.9	
95.15	97.50	100.6	
95.30	96.93	101.1	
95.46	97.04	101.1	
97.50	98.67	100.0	
97.68	98.70	100.0	
97.95	98.64	100.6	
98.78	99.17	100.0	
98.92	99.14	100.6	
99.51	99.66	100.0	

SYSTEM 112

Reference 26

(A) Iso-octane
 C_8H_{18} (B) Toluene
 C_7H_8

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
2.02	3.45	110.3	760
6.99	11.25	109.1	
7.36	12.38	109.0	
14.00	20.30	107.3	
21.80	30.20	107.2	
28.64	38.06	107.3	
40.97	50.50	103.9	
47.12	54.90	103.3	
52.04	59.60	103.1	
57.93	63.92	102.8	
61.80	67.46	101.7	
72.20	76.73	101.1	
80.20	82.90	100.2	
88.70	90.10	100.0	
91.81	92.6	99.6	
96.61	96.85	99.4	

SYSTEM 113-A

Reference 21

(A) n-Pentane
C₅H₁₂

(B) n-Heptane
C₇H₁₆

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
10.0	23.6	190.8	7,600
20.0	40.8	180.2	
30.0	54.5	170.7	
40.0	65.6	162.2	
50.0	74.5	154.6	
60.0	81.8	147.7	
70.0	87.5	141.6	
80.0	92.3	136.0	
90.0	96.4	130.9	
10.0	16.9	235.9	15,200
20.0	32.0	226.1	
30.0	45.6	216.8	
40.0	57.6	208.1	
50.0	68.0	199.7	
60.0	76.5	191.9	
70.0	83.5	184.6	
80.0	89.7	177.7	
90.0	95.1	171.0	
25.5	25.5	253.5	22,900
30.0	33.1	248.8	
40.0	45.7	239.5	
50.0	57.3	230.7	
60.0	67.6	222.3	
70.0	77.0	214.1	
80.0	85.3	206.3	
90.0	93.5	198.6	

SYSTEM 113-B

Reference 48

(A) n-Pentane
C₅H₁₂

(B) n-Heptane
C₇H₁₆

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
10	24.0	190.5	7,600
20	41.7	180.0	
30	55.0	170.5	
40	65.8	162.2	
50	74.4	154.4	
60	81.3	147.2	
70	86.8	141.1	
80	91.8	135.6	
90	96.1	130.5	
10	17.0	235.6	15,200
20	32.2	225.6	
30	44.7	216.7	
40	56.2	207.8	
50	66.3	198.9	
60	75.5	191.6	
70	83.2	184.4	
80	89.9	177.2	
90	95.2	171.1	
25.5	25.5	253.3	23,000
30	33.7	248.9	
40	46.3	239.4	
50	57.7	230.5	
60	67.7	222.2	
70	76.9	213.8	
80	85.4	205.6	
90	93.2	188.9	

SYSTEM 114

Reference 74

(A) Phenol
C₆H₆O

(B) m-Cresol
C₇H₈O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	202.1	760
17.8	29.2		
30.0	44.0		
54.8	68.3		
74.6	84.9		
92.3	95.0		
98.0	98.8	182.0	
100.0	100.0		

SYSTEM 115

Reference 74

(A) Phenol
 C_6H_6O

(B) o-Cresol
 C_7H_8O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	191.8	760
20.2	25.4		
36.0	42.5		
37.6	42.8		
62.3	68.6		
78.8	82.2		
83.5	87.7		
94.4	95.5		
100.0	100.0	182.0	

SYSTEM 116

Reference 74

(A) Phenol
 C_6H_6O

(B) p-Cresol
 C_7H_8O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	202.5	760
22.0	33.1		
23.3	34.6		
35.1	47.2		
60.0	72.8		
77.9	85.9		
92.7	95.2	182.0	
100.0	100.0		

SYSTEM 117

Reference 63

(A) β - Picoline
(Methyl Pyridine)
 C_6H_7N

(B) Phenol
 C_6H_6O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
23.0	8.3	143.5	200
26.5	14.5	145.2	
28.0	20.6	145.0	
28.5	21.0	146.3	
34.5	43.0	145.1	
37.5	55.0	144.1	
38.5	56.3	143.8	
45.0	75.5	139.7	
52.0	93.0	126.5	
70.5	99.0	110.0	
10.0	2.3	159.2	400
16.5	4.5	161.3	
24.0	18.8	165.0	
26.0	21.0	166.4	
33.0	42.2	166.1	
41.0	65.6	161.5	
51.5	91.5	151.3	
72.2	99.0	128.9	
79.0	99.5	124.0	
17.5	8.3	175.4	600
23.5	17.3	177.8	

(System 117 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
28.0	30.0	178.0	600
34.5	48.2	176.9	
44.8	78.0	170.7	
47.3	84.7	167.5	
50.0	89.5	163.8	
55.7	94.5	157.5	
56.5	95.0	156.1	
75.2	98.5	141.0	
9.0	5.0	183.1	760
17.5	11.0	184.5	
23.7	21.0	186.0	
28.0	34.0	186.3	
32.2	45.2	185.5	
37.5	57.5	183.8	
43.5	70.3	180.6	
46.8	78.8	176.8	
48.3	84.0	174.8	
57.0	93.0	165.0	
87.5	99.5	145.5	

SYSTEM 118

Reference 63

(A) γ -Picoline
 C_6H_7N

(B) Phenol
 C_6H_6O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
19.5	7.5	186.5	760
28.0	18.0	189.5	
33.0	35.7	190.3	
37.5	52.0	188.8	
42.7	68.0	185.1	
49.2	80.7	179.2	
53.0	87.5	174.4	
67.0	97.0	159.0	
75.0	98.0	152.5	
83.5	98.5	148.8	
91.0	99.5	146.1	
24.0	10.0	177.5	600
29.5	22.0	180.9	
33.0	34.5	181.6	
38.0	52.5	180.1	
42.2	67.0	176.7	
50.0	83.5	170.2	
57.2	91.7	161.6	
65.7	96.5	152.5	
76.0	99.0	143.2	

(System 118 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
86.5	99.5	139.3	600
93.5	99.7	138.0	
27.0	12.5	165.0	400
31.5	26.0	167.8	
34.0	35.5	168.4	
39.0	54.0	168.5	
41.3	62.0	164.0	
46.5	76.8	159.5	
47.0	78.2	158.7	
56.0	91.7	148.3	
81.5	99.5	128.0	
89.7	99.7	124.1	
27.5	7.5	142.5	200
31.0	19.5	146.5	
36.0	39.2	147.2	
39.5	53.5	145.6	
43.5	70.0	142.0	
50.0	85.2	134.8	
57.7	94.0	123.5	
66.5	98.0	114.5	
76.0	99.0	107.7	
85.0	99.5	105.0	
93.0	99.7	103.1	

SYSTEM 119-A

Reference 86

(A) Propane
C₃H₈

(B) Isobutylene
C₄H₈

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.0	0.0	85.5	10,700
9.8	20.2	77.1	
19.7	36.8	70.5	
29.7	49.2	65.5	
39.2	60.1	61.0	
49.8	69.4	57.1	
60.0	77.2	53.2	
70.8	84.1	50.3	
80.4	89.8	46.6	
90.1	94.6	42.7	
100.0	100.0	38.3	
0.0	0.0	105.8	16,040
9.8	18.0	98.6	
19.6	33.7	92.6	
29.9	45.3	87.1	
39.8	56.9	82.7	
49.9	66.0	78.2	
60.0	74.0	73.8	
70.7	82.2	69.8	
80.3	88.2	66.0	
90.2	94.0	62.7	
100.0	100.0	58.2	
0.0	0.0	122.0	20,680
9.8	16.2	116.0	
19.7	30.0	109.8	
29.8	42.2	103.7	

(System 119-A Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
39.2	52.4	98.2	20,680
49.2	62.2	93.8	
60.0	71.9	89.4	
70.8	80.0	85.5	
80.1	86.7	81.6	
90.1	93.4	77.1	
100.0	100.0	72.6	
0.0	0.0	137.2	26,790
9.8	14.9	129.0	
19.7	27.7	123.0	
29.8	38.0	116.4	
39.2	49.5	111.3	
49.2	59.6	106.4	
60.0	69.3	102.2	
70.8	77.3	97.6	
80.1	85.1	93.8	
90.1	92.5	90.5	
100.0	100.0	87.1	
12.1	12.7	139.0	32,080
19.6	21.6	134.0	
29.9	33.7	127.5	
40.0	44.9	122.5	
49.3	56.0	117.5	
60.1	65.9	113.1	
70.8	74.7	108.2	
80.6	83.6	104.3	
90.1	91.7	100.0	
100.0	100.0	93.3	

SYSTEM 119-B

Reference 86

(A) Propane
C₃H₈

(B) Isobutylene
C₄H₈

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.0	0.0	85.6	10,340
10.0	20.5	77.2	
20.0	37.2	70.6	
30.0	49.7	65.6	
40.0	59.9	61.1	
50.0	68.8	57.2	
60.0	77.0	53.3	
70.0	84.0	50.6	
80.0	89.7	46.7	
90.0	94.8	42.8	
100.0	100.0	38.3	
0.0	0.0	106.1	15,500
10.0	18.4	98.9	
20.0	33.8	92.8	
30.0	46.2	87.2	
40.0	56.6	82.8	
50.0	65.9	78.3	
60.0	74.2	73.9	
70.0	81.6	70.0	
80.0	88.2	66.1	
90.0	94.1	62.8	
100.0	100.0	58.3	
0.0	0.0	122.2	20,680
10.0	16.2	116.1	
20.0	30.3	110.0	
30.0	42.6	103.9	

(System 119-B Cont.)

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
40.0	53.1	98.3	20,680
50.0	62.8	93.9	
60.0	71.5	89.4	
70.0	79.4	85.6	
80.0	86.7	81.7	
90.0	93.4	77.2	
100.0	100.0	72.8	
0.0	0.0	137.2	25,840
10.0	14.4	129.4	
20.0	27.3	123.3	
30.0	38.7	116.7	
40.0	49.5	111.6	
50.0	59.5	106.7	
60.0	68.6	102.2	
70.0	77.1	97.8	
80.0	85.0	93.9	
90.0	92.5	90.6	
100.0	100.0	87.2	
0.0	0.0		31,000
10.0	12.5	138.9	
20.0	21.7	133.8	
30.0	33.8	127.8	
40.0	45.8	122.7	
50.0	56.4	118.3	
60.0	65.8	113.3	
70.0	74.8	108.3	
80.0	83.2	104.4	
90.0	91.5	100.0	
100.0	100.0	93.3	

SYSTEM 120

Reference 46

(A) Isopropanol
 C_3H_8O

(B) Water
 H_2O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0	0	100.0	760
1	19	95.0	
2	34	90.0	
3	43	86.7	
6	50.5	83.5	
15	56	81.5	
30	58	81.0	
50	63	80.7	
70	70	80.5	
80	77	81.0	
90	83	82.3	

SYSTEM 121

References 25, 32

(A) n-Propanol
 C_3H_8O

(B) Water
 H_2O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	100.0	760
1.0	11.0	95.0	
2.0	21.6	92.0	
4.0	32.0	90.5	
6.0	35.1	89.3	
10.0	37.2	88.5	
20.0	39.2	88.1	
30.0	40.4	87.9	
40.0	42.4	87.8	
43.2	43.2	87.8	
50.0	45.2	87.9	
60.0	49.2	88.3	
70.0	55.1	89.0	
80.0	64.1	90.5	
85.0	70.4	91.5	
90.0	77.8	92.8	
96.0	90.0	95.0	
100.0	100.0	97.3	

SYSTEM 122

Reference 92

(A) Isopropyl Ether
 $\text{C}_6\text{H}_{14}\text{O}$ (B) Ethylene Chlorohydrin
 $\text{C}_2\text{H}_5\text{ClO}$

Liquid (A)	Mole % in Vapor (A)	Temp. $^{\circ}\text{C}$	Pressure mm. Hg
2.1	56.8	106.0	760 $\pm$ 3
2.8	57.0	105.3	
3.9	66.0	97.0	
7.4	80.0	89.3	
12.7	85.7	83.5	
20.2	89.9	77.8	
26.2	91.5	76.0	
34.6	92.7	74.5	
43.9	94.1	73.1	
48.5	94.8	72.7	
66.4	96.3	70.7	
72.3	96.7	70.0	

SYSTEM 123

Reference 55

(A) Isopropyl Ether
 $\text{C}_6\text{H}_{14}\text{O}$ (B) Isopropanol
 $\text{C}_3\text{H}_8\text{O}$

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	82.3	760
5.0	18.7	77.8	
10.0	30.6	75.4	
15.0	39.6	73.5	
20.0	46.6	71.8	
25.0	51.9	70.6	
30.0	55.6	69.6	
35.0	58.7	68.9	
40.0	61.5	68.3	
50.0	66.2	67.3	
60.0	70.2	66.6	
70.0	74.3	66.3	
78.2	78.2	66.2	
80.0	79.1	66.2	
85.0	81.9	66.3	
90.0	85.3	66.6	
95.0	90.2	67.0	
100.0	100.0	68.5	

SYSTEM 124

Reference 28

(A) Propylene Chloride
 $C_3H_6Cl_2$

(B) Isopropyl Alcohol
 C_3H_8O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	94.2	760
0.56	3.08	91.1	
1.48	7.6	87.6	
3.82	14.3	82.6	
9.9	21.9	79.0	
16.3	26.3	77.9	
23.9	30.3	77.7	
33.7	34.4	77.5	
47.3	40.8	77.6	
61.4	50.0	78.1	
78.9	63.6	79.0	
100.0	94.3	80.5	

SYSTEM 125-A

Reference 12

(A) Toluene
C₇H₈

(B) n-Octane
C₈H₁₈

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
9.70	16.40	123.0	760
20.30	29.70	120.0	
30.00	41.00	119.0	
34.60	46.05	118.0	
40.75	52.65	117.3	
48.00	58.55	115.0	
52.70	62.35	115.8	
57.10	66.20	Not given	
61.45	69.75	114.0	
66.30	73.00	Not given	
72.15	77.85	112.0	
75.70	80.30	112.3	
79.45	83.25	112.0	
82.35	85.55	Not given	
85.80	88.25	Not given	
90.75	92.25	110.9	
94.50	95.50	--	

SYSTEM 125-B

Reference 106

(A) Toluene
C₇H₈(B) n-Octane
C₈H₁₈

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	Not given	20
2.5	5.0		
6.7	14.5		
10.0	20.4		
15.0	25.5		
20.2	33.0		
20.8	33.2		
24.2	39.6		
32.1	48.0		
40.7	57.7		
49.4	64.3		
57.5	70.0		
66.4	76.5		
72.5	81.5		
77.7	84.7		
82.7	88.0		
86.5	90.0		
91.0	93.0		
93.5	95.0		
100.0	100.0		
0.0	0.0	50.7	50
0.1	1.3		
1.1	5.3		
3.8	11.7		
5.3	16.0		
8.9	21.2		
13.8	28.5		
17.1	34.0		
20.5	40.0		
26.5	46.0		
32.5	52.0		

(System 125-B Cont.)

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
36.0	55.0	42.8	50
44.0	61.0	41.7	
45.3	62.5	41.2	
53.5	67.0	40.5	
60.5	74.0	40.2	
67.0	80.5	39.3	
74.0	83.5	38.9	
84.5	89.0	38.2	
88.0	91.0	37.9	
91.0	93.0	37.6	
93.5	95.0	37.4	
95.5	96.3	37.0	
100.0	100.0	36.9	
0.0	0.0	65.5	100
0.1	1.4	65.1	
2.8	7.0	64.6	
3.0	7.7	64.2	
3.5	10.8	64.0	
9.8	21.5	63.4	
13.0	25.5	62.5	
17.0	33.0	61.2	
23.5	43.5	59.6	
32.5	55.2	58.4	
42.0	61.5	57.0	
50.5	66.5	55.6	
61.2	74.5	55.2	
70.0	82.3	54.4	
80.0	84.5	53.8	
85.0	89.2	53.3	
89.1	91.5	53.0	
92.5	94.2	52.6	
94.3	95.6	52.2	
100.0	100.0	52.0	

(System 125-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	83.4	200
1.2	8.2	82.0	
6.0	13.0	81.0	
10.3	23.5	79.4	
19.0	34.5	78.0	
26.5	45.5	76.2	
36.5	56.0	74.8	
47.5	64.5	73.8	
55.0	70.0	72.8	
66.5	80.2	71.0	
75.0	84.2	70.0	
83.5	88.0	69.7	
89.0	92.0	69.6	
94.0	95.6	69.5	
100.0	100.0	69.4	
0.0	0.0	94.4	300
2.0	7.6	93.1	
3.8	12.1	92.3	
9.1	20.0	91.4	
14.0	25.5	90.7	
20.2	37.5	88.8	
28.0	47.5	87.3	
40.0	58.0	85.7	
53.0	67.0	83.1	
60.5	73.0	82.0	
69.0	81.7	81.3	
75.0	84.0	80.8	
84.5	88.5	80.6	
90.5	93.0	80.4	
83.2	95.6	80.2	
100.0	100.0	80.1	
0.0	0.0	103.0	400
1.8	6.7	101.6	

(System 125-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
5.2	15.0	100.0	400
9.5	23.3	98.5	
16.5	36.5	97.0	
22.0	44.0	95.4	
28.8	51.0	94.5	
30.5	54.0	94.4	
40.3	59.5	93.7	
47.5	63.3	93.5	
50.5	67.0	92.5	
54.5	69.5	92.0	
58.0	70.5	91.5	
66.6	80.2	91.2	
75.5	84.0	90.7	
82.0	86.2	90.3	
84.0	89.5	89.6	
89.0	92.2	89.2	
93.0	95.6	88.9	
96.3	97.0	88.8	
100.0	100.0	88.7	
0.0	0.0	118.4	640
1.2	5.2	116.6	
3.0	10.0	115.8	
4.5	13.0	115.3	
7.3	19.0	114.8	
11.3	25.5	114.0	
16.5	32.5	112.8	
23.5	41.0	115.5	
30.0	50.0	109.4	
35.0	55.0	108.8	
42.0	60.2	107.8	
47.5	65.0	107.2	
55.0	69.0	106.5	
60.0	72.0	105.8	
66.5	77.0	105.6	

(System 125-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
70.0	82.5	105.0	640
74.5	84.0	104.6	
80.5	86.0	104.2	
83.5	88.0	104.0	
86.0	89.8	103.8	
88.0	91.5	103.6	
90.5	93.0	103.4	
93.5	95.7	103.3	
100.0	100.0	103.2	
0.0	0.0	125.2	760
0.9	3.4	124.0	
3.0	7.8	123.0	
6.0	15.0	122.2	
11.0	22.0	120.7	
19.5	33.0	119.0	
25.0	42.5	117.4	
32.5	48.0	116.2	
40.0	58.0	115.0	
50.0	65.5	113.8	
59.0	70.0	113.0	
67.5	79.0	112.3	
76.5	84.0	111.6	
84.0	88.5	111.0	
91.7	93.3	110.5	
95.7	96.7	110.2	
100.0	100.0	110.1	

SYSTEM 126

Reference 26

(A) Toluene
C₇H₈

(B) Phenol
C₆H₆O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
4.35	34.1	172.7	760
8.72	51.2	159.4	
11.86	62.1	153.8	
12.48	62.5	149.4	
21.9	78.5	142.2	
27.5	80.7	133.8	
40.8	87.25	128.3	
48.0	89.01	126.7	
58.98	91.59	122.2	
63.48	92.8	120.2	
65.12	92.6	120.0	
74.0	94.63	119.7	
77.3	95.36	119.4	
80.12	95.45	115.6	
88.4	97.5	112.7	
91.08	97.96	112.2	
93.94	98.61	113.3	
97.7	99.48	111.1	
99.1	99.8	111.1	
99.39	99.86	110.5	
99.73	99.93	110.5	

SYSTEM 127

Reference 102

(A) Triethylamine
C₆H₁₅N

(B) Acetic Acid
C₂H₄O₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	118.2	760
14.5	0.1	134.5	
19.6	0.3	160.0	
20.1	14.5	162.7	
20.5	20.5	163.0	
21.0	28.8	162.5	
22.5	98.8	147.0	
27.0	98.8	128.5	
42.5	99.0	105.5	
60.0	99.0	92.6	
100.0	100.0	89.4	

SYSTEM 128

Reference 43

(A) 2,2,3 Trimethylbutane
C₇H₁₆

(B) Benzene
C₆H₆

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	79.1	736
2.8	5.0	78.3	
5.5	8.7	77.7	
9.5	14.3	77.1	
14.2	20.0	76.6	
20.5	25.5	76.2	
28.9	31.9	75.8	
35.3	37.8	75.7	
41.0	41.3	75.6	
43.3	43.3	75.6	
46.8	46.1	75.6	
52.0	49.9	75.7	
57.0	53.9	75.8	
64.0	58.6	76.2	
71.7	66.2	76.6	
78.1	73.0	77.1	
85.9	82.2	78.0	
93.3	90.2	78.9	
100.0	100.0	79.9	

SYSTEM 129

Reference 43

(A) 2,2,4 Trimethylpentane
C₈H₁₈

(B) Methyl Cyclohexane
C₇H₁₄

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	99.9	741
4.0	4.8	99.8	
8.8	10.7	99.65	
14.0	16.3	99.5	
19.0	20.4	99.4	
24.5	25.7	99.3	
34.0	35.0	99.1	
40.7	41.6	98.95	
47.6	49.0	98.85	
69.5	70.7	98.55	
79.4	80.9	98.4	
87.9	88.8	98.3	
100.0	100.0	98.2	

SYSTEM 130

Reference 12

(A) 2,2,4 Trimethylpentane
C₈H₁₈

(B) n-Octane
C₈H₁₈

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
5.1	10.5	124.0	760
10.7	19.7	123.0	
16.0	29.0	121.0	
20.8	35.6	119.8	
24.8	40.9	118.9	
28.1	45.0	118.3	
32.1	50.0	117.0	
36.0	53.5	116.0	
39.2	57.5	--	
42.4	61.0	--	
46.4	65.0	113.4	
48.8	67.5	--	
56.0	73.5	110.7	
58.8	75.5	--	
65.8	81.0	108.2	
69.8	83.5	--	
73.9	85.4	106.0	
78.8	89.0	105.0	
83.5	91.5	103.5	
89.2	94.5	101.9	
93.3	96.9	100.0	

SYSTEM 131-A

Reference 34

(A) Water
H₂O

(B) Acetic Acid
C₂H₄O₂

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
0.0	0.0	118.4	760
0.45	1.15	117.5	
8.9	15.6	109.1	
17.3	28.1	105.6	
32.85	47.6	103.0	
47.4	62.4	101.6	
55.75	68.5	101.2	
63.6	74.5	100.9	
74.3	81.7	100.59	
84.0	88.6	100.37	
95.4	96.8	100.12	
100.0	100.0	100.00	
0.0	0.0	105.2	500
5.0	9.1	99.55	
14.0	23.3	94.28	
22.8	34.8	92.54	
31.6	45.4	91.43	
40.7	55.0	90.74	
51.8	65.4	89.94	
63.4	74.0	89.53	
74.9	82.2	89.20	
86.6	90.8	88.98	
95.5	97.0	88.83	
100.0	100.0	88.7	
0.0	0.0	85.5	250
4.6	8.3	80.42	
10.5	17.5	77.33	

(System 131-A Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
16.5	25.5	75.86	250
20.8	30.7	75.12	
34.2	44.6	73.76	
45.0	55.0	73.09	
61.0	68.2	72.51	
70.8	76.1	72.33	
83.9	87.5	71.87	
95.7	93.8	71.63	
100.0	100.0	71.6	
0.0	0.0	67.8	125
3.9	7.1	64.25	
10.7	17.0	61.53	
21.4	29.8	59.83	
35.6	44.7	58.61	
45.7	53.8	58.10	
60.1	66.2	57.58	
71.3	75.6	57.28	
82.2	85.4	56.92	
90.2	92.5	56.68	
94.8	96.3	56.57	
100.0	100.0	56.4	

SYSTEM 131-B

References 7, 26, 67

(A) Water
 H_2O (B) Acetic Acid
 $\text{C}_2\text{H}_4\text{O}_2$

Mole % in Liquid (A) Vapor (A)		Temp. $^{\circ}\text{C}$	Pressure mm. Hg
0.0	0.0	118.1	760
5.0	9.2	115.4	
10.0	16.7	113.8	
20.0	30.2	110.1	
30.0	42.5	107.5	
40.0	53.0	105.8	
50.0	62.6	104.4	
60.0	71.6	103.2	
70.0	79.5	102.1	
80.0	86.4	101.3	
90.0	93.0	100.6	
95.0	96.3	100.3	
100.0	100.0	100.0	

SYSTEM 132

Reference 10

(A) Water
 H_2O (B) Acetyl Methyl Carbinol
 $\text{C}_4\text{H}_8\text{O}_2$

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
5.0	3.7	140.5	750
12.6	47.0	124.0	
22.0	62.0	119.0	
28.9	73.0	112.5	
42.0	80.2	106.0	
53.0	84.0	103.0	
64.0	87.4	102.0	
70.1	88.4	101.7	
78.8	90.2	101.0	
84.1	91.2	100.5	
87.9	92.3	100.5	
90.8	93.7	100.0	
92.9	94.6	100.0	
94.5	95.3	100.0	
95.8	96.1	100.0	
96.0	96.0	99.8	
96.5	96.6	99.8	
97.2	97.0	99.8	
98.1	97.6		
99.1	98.8		
99.8	99.53		
99.82	99.64		
99.9	99.88		
99.9	99.87		
99.95	99.94		

SYSTEM 133

Reference 17

(A) Water
 H_2O (B) Isobutanol
 $\text{C}_4\text{H}_{10}\text{O}$

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
6.2	31.1	98.95	762.0
8.9	40.2	96.73	
9.4	39.0	96.80	
24.1	55.2	92.3	760.0
30.7	59.7	90.75	
42.5	65.3	89.25	
62.9	68.0	89.25	
97.92	68.4	88.0	761.4
98.07	69.6	89.4	
98.08	69.0	89.0	
98.48	71.0	90.0	756.2
99.00	77.40	90.9	761.4
99.09	77.55	90.3	763.8
99.10	78.2	90.5	763.8
99.35	81.48	93.52	756.2
99.73	91.0	96.05	
99.76	93.25	97.02	
99.80	94.74	97.58	757.0
99.80	93.75	97.6	763.8
99.89	96.73	98.12	756.2
99.94	98.78	98.8	757.0

SYSTEM 134

Reference 95

(A) Water
H₂O

(B) n-Butanol
C₄H₁₀O

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
3.9	26.7	111.5	760
4.7	29.9	110.6	
5.5	32.3	109.6	
7.0	35.2	108.8	
25.7	62.9	97.9	
27.5	64.1	97.2	
29.2	65.5	96.7	
30.5	66.2	96.3	
49.6	73.6	93.5	
50.6	74.0	93.4	
55.2	75.0	92.9	
56.4	75.2	92.9	
57.1	74.8	92.9	
57.3	75.0	92.8	
97.5	75.2	92.7	
98.0	75.6	93.0	
98.2	75.8	92.8	
98.5	77.5	93.4	
98.6	78.4	93.4	
98.8	80.8	93.7	
99.2	84.3	95.4	
99.4	88.4	96.8	
99.7	92.9	98.3	
99.8	95.1	98.4	
99.9	98.1	99.4	

SYSTEM 135-A

Reference 10

(A) Water
H₂O

(B) Meso-2,3 Butylene Glycol
C₄H₁₀O₂

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
6.6	56.6	118.0	127 ± 5
16.5	74.3	106.2	
25.5	87.8	92.0	
26.4	95.52	81.0	
31.4	96.54	74.0	
45.9	98.24	71.0	
64.1	99.15	64.0	
68.5	99.27		
69.2	99.35	63.0	
77.9	99.4		
87.98	99.67	60.4	
92.07	99.82		
96.38	99.9	59.0	
98.95	99.97	58.5	
99.91	100.0	58.4	
5.7	61.1	158.5	750 ± 5
18.3	85.6	134.8	
27.6	95.51	117.0	
34.9	96.12	113.4	
41.4	97.19	109.3	
64.1	98.20	106.0	
68.8	98.37		
78.2	98.75	103.0	
82.9	99.05	101.8	
87.9	99.30	101.8	
92.92	99.45	101.0	
96.54	99.72	100.5	

(System 135-A Cont.)

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
98.56	99.85	100.0	750 _± 5
100.0	100.0	100.0	
60.3	96.28	155.0	1,550
64.3	96.69	151.6	
69.7	97.15	149.7	
71.8	97.15	139.5	
76.1	97.68	138.0	
83.3	98.15		
87.8	98.49		
89.3	98.65		
93.81	99.04	136.0	
95.39	99.25		
97.27	99.47		3,360
98.90	99.78	135.0	
99.70	99.94	135.0	
66.0	96.59	172.2	
71.8	97.12	170.5	
73.8	97.20	160.2	
76.3	97.39	159.6	
83.7	97.73		
86.0	97.83	157.8	
86.1	97.90		
88.1	98.08		154.5
90.7	98.34		
93.75	98.90		
96.12	99.19		
98.16	99.55		
99.45	99.86		
99.94	99.98	154.5	

SYSTEM 135-B

Reference 64

(A) Water
H₂O

(B) Meso-2,3-Butylene Glycol
C₄H₁₀O₂

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
4.85	60.70	126.0	200
8.30	69.70	119.6	
12.69	82.40	109.5	
27.70	94.60	86.4	
46.30	97.60	73.6	
66.20	98.70	69.4	
82.30	99.20	68.3	
87.70	99.40	67.8	
94.50	99.50	67.2	
4.85	55.69	140.0	350
8.30	64.90	135.8	
15.00	80.00	123.0	
19.16	87.20	115.4	
25.70	92.00	105.8	
47.50	97.40	87.6	
66.20	98.70	83.6	
80.60	99.00	81.2	
91.20	99.10	79.4	
2.90	33.60	155.4	500
4.00	42.70	153.4	

(System 135-B Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
9.50	63.00	144.0	500
14.70	75.50	136.1	
31.90	93.00	111.4	
56.90	98.70	95.2	
79.40	99.00	91.7	
88.00	99.40	89.7	
92.70	99.60	89.2	
3.70	31.75	172.0	760
6.00	42.00	167.2	
10.00	57.00	158.6	
15.75	70.80	149.6	
26.70	87.50	132.0	
48.80	96.60	110.6	
62.00	98.00	106.0	
71.50	98.50	104.6	
81.40	99.00	102.4	

SYSTEM 136

Reference 3

(A) Water
H₂O

(B) Cellosolve
C₄H₁₀O₂

Mole % in		Temp. °C	Pressure mm. Hg
Liquid (A)	Vapor (A)		
1.8	28.8	Not given	760
4.2	38.0		
6.4	44.6		
9.0	47.7		
11.6	51.2		
13.5	54.1		
18.0	58.8		
20.1	60.5		
26.0	65.4		
33.0	71.2		
37.0	73.2		
39.4	74.8		
46.4	78.6		
52.8	81.4		
54.1	81.9		
55.9	82.9		
58.2	83.3		
60.0	83.9		
64.3	85.0		
66.4	85.5		
68.0	85.8		
76.6	87.8		
80.3	88.7		
86.0	90.1		
89.5	91.1		
93.5	92.8		
96.3	94.3		
98.5	96.3		
99.9	99.3		

SYSTEM 137

Reference 98

(A) Water
H₂O

(B) Ethylene Glycol
C₂H₆O₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	160.6	228
0.1	31.0	152.4	
2.0	44.8	148.3	
4.0	60.0	142.1	
8.0	74.5	132.0	
10.0	78.6	127.5	
20.0	90.0	111.2	
30.0	95.0	100.5	
40.0	97.2	93.1	
50.0	98.2	87.7	
60.0	98.9	82.9	
70.0	99.3	78.8	
80.0	99.6	75.6	
90.0	99.8	72.8	
100.0	100.0	69.5	

SYSTEM 138

Reference 60

(A) Water
H₂O

(B) Formic Acid
CH₂O₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
22.0	13.0	Not given	750
38.5	35.0		
44.0	44.0		
51.5	57.5		
62.5	70.2		
70.0	82.8		
79.5	89.0		
85.5	93.0		
91.0	96.0		
95.8	98.4		

SYSTEM 139

Reference 46

(A) Water
H₂O

(B) Furfural
C₅H₄O₂

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	161.7	760
2.0	10.0	158.8	
4.0	19.0	154.8	
6.0	36.0	146.0	
8.0	68.0	122.5	
10.0	81.0	109.5	
20.0	89.0	100.6	
30.0	90.5	98.7	
50.0	90.8	97.9	
90.8	90.8	97.9	
96.0	90.8	97.9	
98.0	92.0	98.07	
99.0	94.5	98.56	
100.0	100.0	100.0	

SYSTEM 140

Reference 8

(A) Water
H₂O

(B) Hydrazine
H₄N₂

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
0.0	0.0		760
10.0	1.8		
20.0	6.1		
30.0	14.2		
40.0	28.9		
50.0	50.0		
60.0	72.0		
70.0	85.5		
80.0	94.0		
90.0	97.9		
100.0	100.0		

SYSTEM 141

Reference 8

(A) Water
H₂O

(B) Hydrozine Hydrate
H₆N₂O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0		760
10.0	21.9		
20.0	42.6		
30.0	61.4		
40.0	75.2		
50.0	85.0		
60.0	91.0		
70.0	94.5		
80.0	98.25		
90.0	99.2		
100.0	100.0		

SYSTEM 142

Reference 19

(A) Water
 H_2O

(B) 3-Hydroxy-3-methyl-2-butanone
 $C_5H_{10}O_2$

Liquid (A)	Mole % in Vapor (A)	Temp. °C	Pressure mm. Hg
0.0	0.0	141.0	
18.8	34.4	129.5	
22.6	57.2	119.9	
26.3	70.0	109.8	
32.8	77.6	104.1	
38.6	81.0	101.7	
50.2	84.4	100.4	
58.7	85.8	99.8	
70.8	87.2	99.3	
79.1	87.9	99.1	
85.0	88.6	98.9	
89.5	89.5	98.8	
93.0	90.6	99.0	
95.8	92.4	99.3	
98.1	95.0	99.9	
100.0	100.0	100.3	

SYSTEM 143

Reference 13

(A) Water
H₂O

(B) 2-Methyl-3-Butyn-2-ol
C₅H₁₂O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
0.0	0.0	104.5	768.5
18.9	42.7	94.8	
34.2	55.3	92.3	
53.8	63.4	91.3	
66.7	65.7	91.1	
75.7	66.9	91.2	
82.4	67.5	91.25	
87.5	68.1	91.3	
91.6	69.1	91.4	
94.9	70.3	91.8	
97.7	75.7	93.4	
99.0	83.6	95.6	
99.5	91.0	96.0	
100.0	100.0	100.3	

SYSTEM 144

Reference 88

(A) Water
H₂O

(B) Nitromethane
CH₃NO₂

Mole % in Liquid (A) Vapor (A)		Temp. °C	Pressure mm. Hg
7.9	34.0	Not given	760
16.2	45.0		
23.2	49.7		
31.2	50.0		
39.2	50.2		
45.0	50.2		
55.2	50.2		
63.8	50.2		
73.0	50.2		
77.0	50.2		
81.4	50.1		
88.0	50.2		
91.4	50.3		
92.5	51.3		
93.5	52.9		
95.1	55.9		
95.9	57.5		
97.5	65.8		
97.8	68.4		
98.6	79.2		

SYSTEM 145

Reference 74

(A) Water
H₂O

(B) Phenol
C₆H₆O

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
10.0	92.0	Not given	40
19.7	96.97		
40.0	98.40		
62.7	99.13		
91.6	99.16		
99.29	99.33		
99.42	99.48		
99.65	99.65		
5.0	78.30	Not given	260
21.3	95.38		
27.9	96.08		
30.2	96.88		
57.0	97.99		
67.9	98.14		
77.4	98.22		
96.17	98.38		
98.0	98.57		
98.69	98.87		
99.17	99.16		

(System 145 Cont.)

Mole % in Liquid Vapor (A) (A)		Temp. °C	Pressure mm. Hg
11.20	84.00	Not given	760
15.00	91.10		
19.20	93.79		
35.00	96.55		
37.70	96.59		
38.20	96.60		
64.20	97.53		
67.90	96.98		
91.56	97.62		
91.09	97.64		
93.58	97.77		
96.36	97.90		
97.91	98.09		
98.09	98.10		
98.62	98.38		
99.17	98.88		
99.58	99.24		

SYSTEM 146

Reference 107

(A) Water
 H_2O

(B) Sulphuric Acid
 $\text{H}_2\text{O}_4\text{S}$

Mole % in Liquid Vapor (A) (A)		Temp. $^{\circ}\text{C}$	Pressure mm. Hg
7.5	7.5	335	760
10.0	32.0	331	
18.0	73.5	311	
24.5	86.7	293	
30.0	93.0	278	
37.5	96.2	262	
43.5	98.2	249	
46.5	98.9	236	
51.0	99.3	224	
55.0	99.5	213	
57.5	99.6	203	
63.5	99.8	182	
68.5	99.9	165	
73.5	100.0	151	

SYSTEM 147

Reference 72

(A) Acetone
 $\text{C}_3\text{H}_6\text{O}$ (B) Chloroform
 CHCl_3 (C) Water
 H_2O

Mole % in				Temp. $^{\circ}\text{C}$	Pressure mm. Hg
Liquid (A) (B)	Vapor (A) (B)				
7.7	83.9	5.4	91.5	Not given	760
12.8	79.3	9.9	86.9		
18.5	74.1	16.1	80.5		
25.9	67.4	25.3	71.1		
30.2	0.7	69.3	23.1		
34.2	58.0	34.7	61.4		
37.2	61.6	32.2	64.0		
37.4	45.0	41.6	54.3		
38.3	56.0	38.7	57.3		
38.5	49.2	40.8	55.2		
42.0	38.2	47.4	48.3		
42.0	51.1	43.2	52.7		
44.2	53.2	47.7	48.5		
45.2	40.4	49.1	46.5		
45.4	3.8	68.2	25.4		
46.3	5.3	65.2	29.2		
47.2	0.1	28.4	3.6		
47.7	47.1	49.3	46.6		
48.8	7.8	63.4	29.4		
49.2	27.4	55.4	39.9		
49.3	35.0	53.4	42.1		
50.0	40.2	51.6	44.0		
51.7	38.2	53.3	42.2		
52.3	42.1	54.4	41.0		
52.7	37.2	54.0	41.4		
54.3	39.1	55.9	39.2		
54.3	40.6	58.7	36.7		
54.9	16.1	61.7	32.9		
56.6	25.8	59.2	35.8		
56.9	3.3	80.0	14.4		
57.1	41.1	65.9	31.6		
57.1	34.5	60.2	35.4		

(System 147 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
58.2	7.6	72.3	21.6	Not given	760
59.0	10.2	70.2	24.1		
59.0	14.6	66.0	27.7		
60.4	26.0	62.8	30.2		
60.5	29.2	63.8	30.9		
61.5	36.5	69.8	28.2		
63.4	9.8	74.0	21.0		
65.7	28.6	70.9	25.6		
66.2	29.0	71.8	24.4		
66.4	23.7	70.2	24.9		
66.9	7.3	79.8	13.7		
67.5	29.5	75.3	21.7		
67.6	23.3	72.8	22.5		
70.8	19.9	75.7	19.4		
71.6	6.4	83.9	10.1		
72.5	23.4	79.2	17.6		
74.0	17.5	79.7	15.7		
74.8	11.8	82.1	13.5		
75.0	21.7	82.0	15.2		
77.0	18.4	82.1	15.4		
78.0	8.3	85.9	8.9		
78.4	7.8	86.2	8.4		
78.7	13.6	85.0	10.9		
79.7	11.7	85.7	10.4		
81.8	14.2	87.2	10.4		
82.0	4.0	90.9	4.3		
86.3	8.2	90.7	6.0		
87.7	10.5	92.1	6.7		
89.1	5.3	93.2	3.8		
95.1	2.4	97.1	1.2		

SYSTEM 148

Reference 12

(A) Acetone (B) n-Heptane (C) Methyl Cyclohexane
C₃H₆O C₇H₁₆ C₇H₁₄

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
10.55	35.95	44.20	23.05	Not given	760
* 10.65	43.50	57.5	21.25		
11.80	17.30	59.0	8.85		
11.95	23.35	58.70	11.55		
13.25	6.05	60.50	2.95		
13.35	12.00	60.20	5.85		
14.05	47.10	75.3	19.35		
14.15	53.50	67.35	20.60		
14.35	63.40	65.05	25.90		
14.65	79.15	62.25	35.35		
14.70	80.85	61.9	36.10		
15.15	58.50	67.5	22.05		
15.50	75.40	61.7	34.2		
16.15	0.0	66.5	0.0		
16.25	71.35	70.55	25.1		
16.95	64.40	67.35	25.45		

SYSTEM 149-A

Reference 62

(A) Acetone
C₃H₆O

(B) Methanol
CH₄O

(C) Water
H₂O

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
1.24	6.13	20.90	22.57	82.8	760
1.88	37.78	9.12	64.50	72.8	
2.53	67.22	7.73	78.69	67.5	
3.31	55.64	9.53	71.91	69.2	
4.29	87.10	9.45	87.10	64.2	
4.49	84.39	10.18	84.96	64.4	
6.28	30.42	27.31	44.20	70.0	
6.39	11.66	43.83	26.90	72.8	
7.24	49.85	21.76	61.39	67.5	
7.57	71.50	18.30	72.30	64.7	
8.40	4.01	60.37	8.58	69.7	
9.05	39.40	30.42	49.55	67.6	
9.10	18.28	41.54	32.80	69.7	
9.52	26.68	38.17	37.46	68.6	
9.71	62.71	23.52	66.15	64.4	
11.20	75.80	23.12	71.80	62.5	
13.14	37.29	36.33	45.65	65.6	
13.15	33.50	49.00	32.62	62.8	
15.15	40.50	38.27	44.90	65.1	
16.65	23.95	47.71	29.04	65.6	
16.96	70.26	29.60	64.07	61.1	
16.97	37.76	42.26	41.26	64.7	
17.58	44.12	39.55	45.43	63.9	
19.54	34.76	41.90	39.70	63.9	
21.91	19.54	57.42	22.06	64.2	
22.38	64.97	38.00	56.94	60.3	
23.65	7.95	69.20	10.55	63.6	
27.08	49.74	45.74	45.05	60.9	

(System 149-A Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	Liquid (B)	Vapor (A)	Vapor (B)		
27.12	23.95	58.13	24.82	62.8	760
27.12	51.15	46.12	45.00	60.6	
29.50	34.75	52.10	35.43	61.5	
31.55	48.65	48.65	42.65	60.3	
33.14	29.56	58.14	25.63	61.7	
33.30	13.83	70.07	14.61	62.1	
33.43	54.75	50.0	45.50	58.7	
35.10	49.05	49.35	47.00	58.6	
37.44	50.10	60.30	34.84	58.3	
38.42	57.93	49.72	48.71	57.5	
38.75	30.73	59.52	27.95	60.6	
40.85	11.34	71.50	10.39	60.9	
42.42	26.15	64.47	21.45	59.8	
43.15	9.40	74.37	9.66	61.1	
47.15	47.45	57.26	40.50	56.5	
47.22	10.43	73.66	10.88	60.0	
47.78	15.72	72.39	11.85	59.5	
52.90	8.65	79.10	6.05	59.4	
55.90	38.07	63.34	33.96	56.5	
57.02	20.35	72.11	16.87	58.1	
61.40	20.02	73.15	17.70	57.5	
62.09	16.33	75.45	13.88	57.8	
67.50	10.25	78.65	10.80	57.6	
74.44	18.80	78.32	18.05	56.0	
75.29	17.08	78.52	17.64	56.1	
81.00	8.71	83.70	9.33	56.5	
82.20	4.06	86.86	6.33	57.0	
85.36	4.97	88.46	5.69	56.2	
89.93	3.70	93.91	4.34	56.5	

SYSTEM 149-B

Reference 40

(A) Acetone
C₃H₆O

(B) Methanol
CH₄O

(C) Water
H₂O

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
10.0	10.0	61.0	13.0	70.0	760
10.0	20.0	52.0	24.0	70.0	
10.0	30.0	43.0	35.5	69.4	
10.0	40.0	37.0	45.0	68.8	
10.0	50.0	32.0	54.0	68.0	
10.0	60.0	26.0	63.0	66.5	
10.0	70.0	22.0	71.0	65.0	
10.0	80.0	18.5	78.0	63.5	
20.0	10.0	72.0	7.0	65.0	
20.0	20.0	63.5	18.0	65.5	
20.0	30.0	56.0	28.0	65.5	
20.0	40.0	50.0	37.0	64.5	
20.0	50.0	44.0	47.0	63.5	
20.0	60.0	38.5	55.0	62.5	
20.0	70.0	34.0	62.5	61.0	
30.0	10.0	76.0	6.5	62.8	62.3
30.0	20.0	70.0	15.0	62.7	
30.0	30.0	62.5	25.5	62.3	
30.0	40.0	57.0	34.5	61.5	
30.0	50.0	52.0	41.5	60.5	
30.0	60.0	46.5	50.0	59.5	

(System 149-B Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
40.0	10.0	79.0	6.0	61.5	760
40.0	20.0	72.5	15.5	60.8	
40.0	30.0	67.0	24.2	60.0	
40.0	40.0	61.5	32.2	59.4	
40.0	50.0	56.5	40.2	58.4	
50.0	10.0	81.0	6.5	60.0	
50.0	20.0	75.0	16.0	59.4	
50.0	30.0	70.0	23.2	58.6	
50.0	40.0	65.0	31.7	57.6	
60.0	10.0	82.0	8.0	59.1	
60.0	20.0	77.0	16.3	58.3	
60.0	30.0	72.0	24.5	57.3	
70.0	10.0	82.7	9.5	58.2	
70.0	20.0	77.8	18.4	57.2	
80.0	10.0	86.0	10.0	57.2	

SYSTEM 150

Reference 106

(A) Acetone
C₃H₆O

(B) Water
H₂O

(C) Acetic Acid
C₂H₄O₂

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
1.2	7.02	8.1	74.6	99.4	760
2.0	51.4	9.8	57.3	101.4	
2.1	88.7	25.7	70.2	92.3	
3.9	35.3	15.0	43.5	101.6	
4.9	70.1	26.7	61.5	95.0	
5.0	66.1	26.7	60.8	92.0	
5.3	47.3	20.5	50.6	98.8	
10.0	65.6	47.6	46.8	83.8	
10.3	44.8	35.3	42.9	93.4	
11.0	61.7	49.7	44.0	84.6	
11.4	30.3	37.0	33.0	93.9	
16.0	28.1	48.3	27.7	90.0	
17.7	43.3	58.0	33.3	81.4	
18.6	40.1	52.9	32.4	87.2	
18.6	58.7	65.1	32.0	75.2	
24.9	25.4	65.5	19.8	82.9	
24.9	65.4	75.9	23.5	70.8	
28.4	32.7	71.0	21.5	--	
28.7	50.5	75.0	23.3	70.0	
28.9	22.8	71.3	16.1	80.8	
29.0	34.4	71.0	22.4	76.3	
37.0	43.2	79.0	19.8	68.0	
39.8	18.8	81.0	12.5	--	
40.7	28.8	80.0	16.4	70.7	
40.8	25.8	79.9	15.8	70.9	
41.8	50.8	83.1	16.6	61.9	
51.1	14.1	87.3	8.8	69.8	
53.2	22.0	87.9	10.7	65.0	
54.3	12.2	89.5	7.6	66.5	
68.3	14.3	92.5	6.8	60.7	
74.8	21.4	90.2	9.7	61.0	
87.9	5.0	96.6	2.9	58.6	

SYSTEM 151

Reference 53

(A) Acetylene
C₂H₂

(B) Ethylene
C₂H₄

(C) Ethane
C₂H₆

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
0.2	24.4	0.4	30.4	4.44	24,000
5.3	15.6	8.2	18.7		
13.0	1.7	19.9	1.3		
3.7	36.8	5.3	42.1		26,600
11.9	24.3	15.6	27.9		
19.2	15.0	24.2	16.8		
28.8	1.5	35.5	1.5		
81.4	1.0	75.8	1.0		
84.3	7.5	77.8	11.4		
85.9	12.8	79.6	19.0		
4.2	53.2	5.0	58.7		29,200
15.5	36.1	18.6	38.7		
25.7	25.0	28.6	27.3		
38.1	16.7	39.9	18.1		
39.6	15.8	40.8	17.5		
44.7	12.6	45.5	13.8		
55.3	11.9	53.6	12.9		
63.0	13.1	59.0	15.0		
65.4	16.5	60.5	19.3		
65.8	15.7	61.1	19.0		
71.2	27.6	65.3	33.2		
0.0	78.5	0.0	81.5		31,800
7.6	67.7	8.9	69.2		
12.7	62.3	14.2	63.5		
28.1	50.3	28.4	51.7		

(System 151 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg	
Liquid (A)	(B)	Vapor (A)	(B)			
30.1	49.7	29.8	51.6	4.44	34,300	
31.6	48.2	31.0	50.2			
42.8	44.0	40.5	46.5			
50.0	45.9	46.0	49.3			
2.0	95.0	2.5	95.0			
3.0	92.3	3.5	92.5			
10.4	82.9	10.3	83.6			
22.4	74.5	21.7	75.1			
0.0	29.6	0.0	35.2	15.56		31,800
1.0	31.6	1.6	34.7			
2.8	26.5	3.9	29.9			
3.3	22.6	6.3	26.4			
4.3	20.5	7.0	22.3			
6.6	19.3	9.4	21.8			
7.0	17.3	9.6	14.5			
11.0	10.5	14.4	11.9			
14.8	3.3	19.2	3.8			
15.3	1.0	20.1	1.4			
6.9	34.5	8.4	37.4	15.56	34,300	
6.9	35.5	8.0	38.7			
12.9	26.4	14.9	31.0			
21.4	13.0	24.9	16.3			
28.5	3.1	32.0	3.3			
80.9	6.9	78.5	7.7			
81.6	1.8	77.5	2.1			
84.0	14.7	80.2	18.6			

(System 151 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
1.1	58.3	1.5	61.0	15.56	36,900
7.6	48.9	8.4	51.1		
11.1	44.7	12.2	46.1		
12.5	42.7	13.3	44.4		
17.7	35.1	18.9	36.0		
26.0	26.1	28.2	26.9		
29.2	23.1	30.5	24.7		
33.1	21.5	35.5	20.8		
43.3	17.4	44.2	17.8		
52.1	15.6	51.8	15.4		
62.1	16.4	59.2	18.1		
64.3	17.2	61.5	18.7		
66.6	18.0	63.9	19.6		
70.3	19.5	66.0	22.4		
77.6	22.4	72.2	27.8		
21.0	50.5	21.5	50.8	15.56	39,500
34.3	37.5	33.9	38.4		
46.6	38.5	44.7	40.4		
48.7	40.7	49.4	39.4		
56.2	41.5	53.1	44.3		

SYSTEM 152

Reference 46

(A) Carbon Tetrachloride
C Cl₄ (B) Toluene (C) Ethylene Bromide
C₇H₈ C₂H₄Br₂

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
0.0	67.46	0.0	77.6	115	760
3.41	51.25	10.3	58.6	115	
5.80	38.78	19.3	43.3	115	
6.17	93.83	14.0	86.0	107	
7.59	29.59	24.7	34.9	115	
9.75	16.28	33.6	19.2	115	
10.74	71.81	24.4	65.4	107	
11.08	7.92	39.1	9.9	115	
11.95	0.0	44.9	0.0	115	
13.92	54.25	32.5	49.1	107	
16.02	40.15	39.9	36.0	107	
18.48	20.59	49.1	19.0	107	
20.07	8.38	55.6	8.1	107	
24.7	75.30	45.0	55.0	99	
25.8	0.0	60.4	0.0	107	
26.17	65.56	47.8	48.2	99	
28.76	48.05	55.3	34.3	99	
30.35	33.80	59.9	23.9	99	
31.50	22.50	63.6	16.4	99	
32.35	9.53	68.5	6.9	99	

(System 152 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
32.79	0.0	71.8	0.0	99	760
46.68	53.32	68.7	31.3	91	
48.92	35.03	73.8	20.0	91	
49.91	20.85	77.2	11.8	91	
50.12	14.77	78.6	8.5	91	
50.35	9.35	80.4	5.1	91	
50.79	0.0	82.8	0.0	91	
74.5	25.5	88.4	11.6	83	
74.67	22.02	88.4	10.1	83	
75.24	13.97	90.2	6.2	83	
75.36	10.20	90.8	4.3	83	
75.61	6.65	91.4	3.0	83	
75.81	3.25	92.0	1.0	83	
76.12	0.0	92.3	0.0	83	

SYSTEM 153

Reference 104

(A) Ethanol
C₂H₆O

(B) Benzene
C₆H₆

(C) Water
H₂O

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
24.9	0.8	41.0	26.8	Not given	760
25.2	1.7	29.4	46.1		
27.1	3.3	26.6	52.2		
38.0	53.9	32.2	53.6		
45.7	4.0	40.9	34.8		
45.7	3.3	43.5	31.4		
86.4	3.3	74.0	14.6		
88.0	1.4	84.2	5.1		

SYSTEM 154

Reference 39

(A) Ethyl Alcohol (B) Ethyl Acetate (C) Water
C₂H₆O C₄H₈O₂ H₂O

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
6.2	85.0	7.6	73.6	71.8	760
6.5	87.7	10.4	76.7	72.8	
7.8	89.9	10.7	86.6	72.7	
8.1	0.2	33.1	3.8	85.4	
8.9	0.5	32.5	21.2	82.0	
9.6	0.4	37.2	12.5	82.4	
10.0	70.3	10.2	64.5	70.6	
11.6	2.0	29.9	28.4	76.3	
11.7	34.3	14.0	55.1	70.8	
13.4	76.5	16.4	66.3	71.8	
13.6	1.4	37.1	20.6	78.9	
14.9	31.9	15.2	50.0	71.0	
14.9	64.9	15.2	61.3	70.6	
15.6	10.2	23.0	38.6	72.8	
15.8	4.6	27.6	35.4	73.4	
16.0	12.5	20.8	41.7	72.2	
17.3	68.2	19.1	58.1	70.7	
18.3	76.2	23.6	66.9	72.3	
18.4	22.8	20.4	49.7	71.6	
18.6	54.8	16.9	57.9	70.7	
18.9	43.1	16.2	54.4	70.7	
19.0	72.7	22.7	64.9	71.6	
19.0	3.6	34.8	25.5	76.4	
19.1	59.6	18.0	60.0	70.8	
19.4	9.6	24.2	38.4	72.8	
20.8	20.9	20.3	46.8	71.9	
22.2	26.4	21.2	44.6	71.6	
23.1	2.4	41.2	18.6	77.6	

(System 154 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
23.7	1.7	45.2	11.5	78.8	760
24.4	52.1	22.4	55.2	70.8	
25.4	38.3	22.0	47.8	71.1	
25.9	8.0	32.7	30.7	74.8	
27.3	18.8	26.4	39.8	72.3	
28.2	50.4	26.3	52.5	70.8	
28.6	17.0	28.0	40.8	72.9	
31.0	29.0	28.0	40.0	71.7	
31.8	3.9	44.5	17.4	76.4	
32.8	14.3	32.7	34.5	73.6	
34.5	33.6	30.2	44.2	71.5	
35.4	36.9	30.3	47.5	71.4	
38.3	22.7	33.8	37.7	72.4	
38.5	11.3	39.2	30.0	74.4	
40.2	54.2	39.9	54.5	71.6	
42.3	8.5	44.2	25.0	75.2	
42.4	28.8	37.4	38.6	72.0	
43.3	18.5	40.7	29.9	72.8	
45.7	0.4	62.1	2.0	80.0	
46.2	35.0	40.1	43.1	71.5	
46.9	5.7	51.3	17.6	76.4	
49.5	15.4	46.0	24.6	73.8	
49.6	21.3	42.6	35.0	73.0	
49.8	40.5	44.4	44.4	71.6	
49.9	45.1	48.0	47.3	71.8	
53.3	1.5	63.4	5.6	78.8	
53.6	28.2	46.7	36.8	72.4	
54.3	16.6	47.8	28.8	73.6	
54.6	12.0	52.0	18.6	74.2	
58.0	37.2	53.5	43.0	72.2	
58.6	0.8	67.8	2.5	79.1	

(System 154 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
59.0	32.7	51.3	40.6	72.4	760
60.3	22.3	53.3	31.9	72.7	
62.7	3.3	64.3	9.1	77.4	
64.6	9.5	59.1	20.1	75.4	
66.0	25.3	56.7	34.6	72.5	
66.3	16.4	57.5	26.0	73.8	
66.3	29.0	57.1	38.2	72.9	
69.0	12.1	62.1	22.6	75.0	
70.0	12.3	65.2	20.0	74.4	
70.4	4.8	67.3	11.0	76.7	
71.7	23.1	66.0	30.7	73.4	
72.7	19.7	62.4	30.1	73.7	
74.2	6.2	68.1	14.0	76.2	
75.0	2.4	74.3	5.5	77.5	
77.9	13.6	70.6	22.2	74.7	
79.0	16.5	73.9	24.6	74.3	
79.3	13.6	71.0	22.7	74.8	
82.9	9.2	74.9	16.4	75.8	
84.2	4.8	80.4	9.6	77.0	
85.1	1.5	85.3	2.4	78.1	
85.3	5.3	79.7	12.0	76.6	
85.4	10.5	78.0	19.0	75.4	
89.0	6.8	83.5	12.6	76.2	
89.8	2.2	87.6	5.0	77.0	
89.9	1.6	87.4	3.6	77.6	
95.0	1.7	94.0	3.6	77.6	
96.9	0.6	97.3	1.2	78.1	

SYSTEM 155

Reference 2

(A) Ethanol
 C_2H_6O

(B) Water
 H_2O

(C) Cellosolve
 $C_4H_{10}O_2$

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
3.14	82.24	15.52	77.11	96.0	760
3.95	68.97	26.13	65.32	96.9	
4.71	90.26	26.13	70.72	92.8	
6.38	5.62	22.65	28.68	117.0	
7.25	21.95	21.4	51.15	106.4	
7.61	53.49	20.18	67.54	97.8	
8.00	42.00	21.15	62.78	98.7	
9.66	31.54	23.82	55.91	102.1	
10.03	62.04	26.13	45.32	94.3	
10.73	74.74	31.78	62.94	91.4	
10.86	84.14	39.30	58.40	88.9	
12.42	11.68	34.38	33.49	108.8	
12.68	15.52	33.95	38.17	105.4	
13.28	72.67	35.78	59.79	90.2	
13.58	67.75	38.40	26.22	110.0	
13.68	30.42	35.14	46.50	100.6	
14.12	19.83	35.20	41.06	103.8	
15.13	70.85	38.18	57.60	89.6	
16.74	36.06	36.52	50.28	96.6	
16.83	68.87	40.40	55.58	89.0	
17.14	78.05	46.43	52.06	86.3	
17.82	44.78	38.00	55.08	91.6	

(System 155 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
18.48	67.09	42.06	53.53	--	760
19.48	41.35	40.42	49.77	93.2	
21.18	51.86	41.83	51.67	90.9	
21.54	64.43	46.09	50.68	87.6	
21.68	9.84	52.72	21.31	104.1	
21.86	20.20	47.10	35.87	98.9	
23.32	71.63	51.80	46.90	84.6	
23.85	6.20	56.60	19.00	103.6	
25.32	61.17	49.00	48.20	86.0	
28.25	24.05	53.15	35.03	94.3	
28.76	15.24	57.50	27.38	97.8	
31.30	44.97	53.50	41.61	87.2	
31.50	16.20	59.90	26.78	95.2	
31.94	28.58	55.92	34.75	91.0	
32.85	9.55	65.6	17.92	97.8	
33.20	50.55	54.45	42.62	85.6	
33.22	61.94	57.55	41.30	83.0	
35.10	39.80	56.50	39.14	--	
37.98	46.73	58.15	39.14	85.0	
39.00	26.25	62.40	30.30	89.4	
39.07	15.28	69.90	16.57	93.3	
42.32	12.43	72.15	16.82	92.8	
42.43	10.02	73.28	15.78	93.3	
43.28	32.59	63.17	32.06	86.0	

(System 155 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	Liquid (B)	Vapor (A)	Vapor (B)		
44.02	40.85	61.78	35.85	84.1	760
44.10	51.10	62.35	36.64	81.7	
46.35	14.55	73.58	18.13	90.0	
46.40	30.40	65.50	29.99	85.9	
46.76	25.09	68.22	26.91	85.5	
49.16	15.57	75.9	16.65	89.7	
49.24	13.40	76.6	15.09	89.8	
49.60	12.66	77.20	13.81	89.4	
50.55	35.18	67.08	30.45	83.3	
50.90	44.44	65.75	33.44	81.2	
51.30	21.18	71.54	23.24	86.0	
53.68	18.72	74.50	20.95	86.2	
57.75	28.13	71.70	26.12	82.5	
59.20	14.50	79.18	15.97	85.7	
63.47	21.17	76.65	20.57	82.4	
67.50	16.87	79.35	18.22	82.3	
67.95	27.10	75.13	23.76	80.0	
69.05	30.75	83.00	16.52	78.6	
73.22	21.70	79.98	18.87	80.0	
73.48	13.80	82.47	14.04	81.7	
76.45	18.93	81.66	17.74	79.8	
84.10	15.80	88.5	11.48	78.6	

SYSTEM 156

Reference 87

(A) Ethanol
C₂H₆O

(B) Water
H₂O

(C) Dioxane
C₄H₈O₂

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
5.5	48.4	11.8	44.5	86.16	760
6.1	44.7	11.3	42.3	86.36	
13.6	39.2	25.3	37.3	84.37	
15.5	44.1	27.0	38.2	83.91	
21.7	37.1	33.7	34.4	83.09	
25.7	43.0	39.3	34.6	82.22	
29.0	34.2	41.1	32.5	81.75	
25.2	33.7	46.7	30.8	81.30	
36.5	36.7	48.2	32.8	80.80	
44.6	29.3	54.6	27.8	80.13	
51.0	31.6	59.9	27.1	79.57	
54.7	26.6	63.1	22.6	79.40	
78.0	14.1	81.7	11.4	78.43	
84.2	10.8	84.2	10.8	78.08	
86.4	9.5	86.4	9.5	78.08	
88.3	10.5	86.2	10.9	78.08	
92.1	2.9	89.8	5.7	78.30	

SYSTEM 157

Reference 12

(A) n-Heptane (B) Methylcyclohexane (C) Toluene
C₇H₁₆ C₇H₁₄ C₇H₈

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
4.60	73.85	5.50	76.35	Not given	760
10.25	68.05	11.20	70.45		
15.90	59.30	17.65	60.45		
20.40	53.55	22.30	55.00		
25.40	50.05	28.10	50.75		
28.90	47.05	31.85	47.50		
32.40	43.95	35.50	43.95		
35.75	40.00	38.85	40.05		
40.70	34.85	44.25	34.45		
44.75	30.05	48.35	29.85		
47.90	25.65	51.80	25.70		
51.70	22.25	56.00	22.00		
55.00	17.30	57.90	18.25		
60.30	13.60	64.70	13.40		
62.35	10.00	67.20	9.75		
66.05	7.95	70.65	7.50		
68.85	4.45	73.90	3.95		

SYSTEM 158

Reference 71

(A) Methane
CH₄

(B) n-Butane
C₄H₁₀

(C) Decane
C₁₀H₂₂

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
8.9	91.1	62.3	37.7	71.0	20,700
9.5	72.4	73.7	26.1		
9.9	54.1	82.7	17.1		
10.4	35.8	89.3	10.5		
10.9	17.8	94.8	5.0		
11.4	0.0	99.8	0.0		
15.1	84.9	71.0	29.0	71.0	31,000
14.8	68.2	79.1	20.8		
15.0	51.0	85.6	14.2		
15.3	33.9	91.0	8.9		
15.7	16.9	95.6	4.3		
16.3	0.0	99.8	0.0		
21.2	78.8	74.6	25.4		41,400
19.8	64.2	81.6	18.4		
19.7	48.2	87.2	12.7		
19.8	32.1	91.8	8.0		
20.2	16.0	96.0	3.8		
20.8	0.0	99.8	0.0		
23.8	30.5	92.3	7.5	71.0	51,700
23.9	45.7	88.0	11.9		
24.2	15.2	96.3	3.6		
24.7	60.2	82.9	17.2		
25.0	0.0	99.8	0.0		
27.1	72.8	75.7	24.2		
29.1	28.3	92.7	7.0	71.0	64,500

(System 158 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A) (B)	Vapor (A) (B)				
29.2	14.2	96.4	3.3	71.0	64,500
29.6	42.3	88.6	11.1		
29.8	0.0	99.8	0.0		
30.8	55.3	83.4	16.4		
34.8	65.2	75.9	24.1		
33.8	13.2	96.6	3.1	71.0	77,500
33.9	26.4	93.0	6.6		
34.3	0.0	99.7	0.0		
34.7	39.2	88.9	10.8		
36.8	50.6	83.4	16.3		
43.3	56.7	74.4	25.6		
38.1	12.4	96.7	3.0	71.0	90,500
38.4	0.0	99.7	0.0		
38.4	24.6	93.2	6.4		
39.7	36.2	88.9	10.6		
42.6	45.9	83.1	16.5		
54.2	45.8	68.3	31.7		
42.2	11.6	96.7	2.9	71.0	103,400
42.3	0.0	99.6	0.0		
42.8	22.9	93.3	6.2		
44.4	33.3	88.7	10.7		
48.5	41.2	82.6	16.7		
45.9	0.0	99.5	0.0	71.0	116,200
46.0	10.8	96.6	2.8		
46.9	21.2	93.1	6.2		
49.0	30.6	88.2	11.0		
54.2	36.6	81.7	17.4		

(System 158 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
49.4	0.0	99.4	0.0	71.0	129,200
49.6	10.1	96.5	2.8		
50.9	19.7	92.7	6.4		
53.4	28.0	87.4	11.5		
60.0	32.0	80.0	18.6		
52.7	0.0	99.3	0.0	71.0	142,200
53.1	9.4	96.3	2.8		
54.6	18.2	92.3	6.6		
57.7	25.4	86.5	12.0		
67.9	25.7	74.9	23.1		
56.0	0.0	99.1	0.0	71.0	155,000
56.4	8.7	95.9	2.9		
58.3	16.7	91.7	6.7		
62.1	22.7	85.5	12.3		
59.1	0.0	98.9	0.0	71.0	158,000
59.6	8.1	95.5	3.1		
62.0	15.2	91.0	6.9		
66.6	20.0	84.2	12.6		
62.1	0.0	98.6	0.0	71.0	181,000
62.9	7.4	95.1	3.0		
65.6	13.8	90.0	7.1		
72.5	16.5	83.7	12.2		
65.0	0.0	98.3	0.0	71.0	194,000
65.9	6.8	94.4	3.1		
69.6	12.2	89.1	7.1		

(System 158 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
68.0	0.0	97.8	0.0	71.0	206,800
69.1	6.2	93.6	3.2		
73.8	10.5	87.9	7.0		
71.0	0.0	97.2	0.0	71.0	220,000
72.7	5.5	92.9	3.0		
78.2	8.7	86.2	6.9		
74.3	0.0	96.5	0.0	71.0	233,000
76.1	4.8	91.2	3.3		
77.9	0.0	95.4	0.0	71.0	246,000
81.4	3.7	89.6	3.1		
82.5	0.0	93.7	0.0		258,500

SYSTEM 159

Reference 5

(A) Methane
CH₄

(B) Ethylene
C₂H₄

(C) Isobutane
C₄H₁₀

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
0.0	49.7	0.0	84.0	37.78	25,840
3.9	37.2	18.7	64.0	37.78	
6.9	27.9	33.5	48.1	37.78	
12.5	12.4	57.6	22.4	37.78	
0.0	29.6	0.0	62.4	71.11	51,700
3.0	21.5	14.8	45.8	71.11	
5.6	15.0	26.9	32.5	71.11	
8.3	7.8	41.8	16.3	71.11	
11.3	45.8	16.2	51.7	71.11	
15.9	33.4	28.3	40.8	71.11	
21.7	18.1	45.9	22.9	71.11	
15.7	56.3	25.7	60.3	37.78	
18.9	46.2	35.7	50.0	37.78	
21.5	38.3	43.4	42.0	37.78	
25.2	27.0	55.2	29.7	37.78	
28.4	17.0	65.7	18.7	37.78	

SYSTEM 160

Reference 36

(A) Methanol
 CH_4O (B) Ethanol
 $\text{C}_2\text{H}_6\text{O}$ (C) Water
 H_2O

Mole % in				Temp. $^{\circ}\text{C}$	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
3.0	9.6	17.2	39.8	Not given	744.9
3.2	5.1	19.8	31.6		742.0
4.4	48.2	7.4	63.0		745.6
5.2	14.2	17.3	44.9		746.1
6.1	3.3	39.0	15.1		741.2
6.1	28.6	15.2	52.1		746.6
6.3	64.1	10.2	67.5		747.0
8.0	39.2	15.8	55.0		740.3
9.2	7.5	29.5	33.6		746.3
10.6	51.7	18.3	57.3		742.8
12.1	24.2	31.3	40.8		746.8
12.5	8.9	39.1	27.9		745.9
13.1	41.9	23.3	51.0		741.8
13.8	2.9	50.0	13.1		743.7
15.2	33.3	28.4	45.3		745.2
16.7	69.0	24.9	63.6		745.9
18.7	11.5	42.7	28.4		747.3
18.8	45.9	29.7	49.3		743.1
19.7	19.3	41.7	31.2		747.8
20.0	3.5	59.1	10.9		744.3
21.7	28.3	39.6	36.9		745.1
25.4	32.7	41.3	37.1		742.7

(System 160 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
26.6	14.1	52.9	22.4	Not given	747.2
28.1	38.3	43.1	38.6		742.4
29.4	3.6	64.7	9.0		746.0
31.7	56.6	47.2	45.6		746.4
33.1	18.8	53.1	26.5		739.9
34.1	9.6	61.4	15.4		745.3
37.8	23.3	57.3	25.2		742.2
40.6	3.8	73.7	6.9		747.6
41.5	27.4	60.3	25.5		742.6
46.6	44.1	58.6	36.3		746.4
47.3	15.1	70.3	15.4		740.6
62.5	3.6	84.5	4.0		744.3
68.3	6.4	86.5	5.1		749.7
77.5	20.0	85.8	13.2		745.4
80.8	4.0	92.1	3.5		746.8
88.5	10.0	93.8	5.7		747.1

SYSTEM 161

Reference 26

(A) Methyl Cyclohexane
C₇H₁₄

(B) Toluene
C₇H₈

(C) Phenol
C₆H₆O

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
0.88	17.11	8.70	69.50	146.1	760
1.30	24.30	9.40	73.10	135.6	
1.86	34.32	9.52	76.60	126.7	
2.26	44.89	8.96	82.10	121.1	
2.38	16.14	20.40	56.90	141.6	
2.87	7.23	37.88	35.80	150.0	
3.01	17.81	27.45	56.30	138.9	
3.36	32.80	16.70	70.30	125.6	
3.65	23.40	23.00	59.70	134.4	
4.11	15.95	31.37	47.23	137.8	
4.17	31.02	21.00	66.31	126.7	
4.60	31.35	23.10	65.30	124.4	
4.80	54.19	14.06	80.18	115.6	
5.47	21.63	32.60	52.82	128.9	
5.95	7.65	52.63	26.70	141.1	
6.24	11.21	46.45	34.1	138.9	
6.35	28.65	29.90	58.50	121.1	
6.40	5.42	14.12	40.20	161.1	
6.54	40.12	24.02	68.67	118.2	
6.99	5.51	54.01	17.01	146.7	
7.47	27.63	35.05	55.35	121.1	
8.18	6.41	61.32	19.90	140.0	
8.26	54.49	23.70	70.00	114.9	
8.95	9.22	58.51	25.30	135.6	
9.30	49.50	25.90	68.30	116.1	
10.45	36.55	35.53	57.27	116.7	
10.61	67.07	21.13	74.00	113.3	
10.90	19.41	51.30	37.81	122.2	

(System 161 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
11.09	8.69	60.01	19.79	134.4	760
11.53	3.40	74.40	10.20	137.8	
11.73	15.74	56.20	32.20	126.1	
11.98	18.52	54.10	37.30	124.9	
12.11	4.50	60.28	10.32	138.3	
12.21	44.20	32.98	59.57	120.0	
13.00	43.80	34.00	60.80	114.9	
13.09	12.00	61.59	23.19	126.1	
14.21	7.49	72.35	16.55	127.8	
14.79	4.09	79.40	9.41	131.1	
15.82	73.83	25.75	72.15	110.0	
15.82	14.90	63.72	27.85	123.8	
16.88	11.72	68.50	21.70	123.8	
18.51	31.98	51.75	42.80	115.6	
18.56	5.60	79.26	11.29	125.6	
19.71	6.59	78.20	11.20	120.5	
20.19	3.56	84.91	7.09	124.4	
20.37	16.36	66.97	25.90	119.4	
21.42	22.40	62.89	31.41	117.2	
22.60	42.81	48.15	47.00	113.8	
23.65	6.71	81.35	11.47	121.6	
23.94	10.08	77.33	16.01	119.4	
24.40	70.32	34.82	63.81	108.0	
25.54	33.78	56.31	38.69	113.8	
25.60	39.62	51.66	43.70	113.8	
25.77	54.90	43.23	53.25	110.5	
25.80	64.39	31.63	60.25	108.9	
30.18	15.72	75.80	19.16	115.6	
30.58	8.12	83.35	11.37	117.2	
30.80	40.56	55.16	40.60	112.2	
31.73	4.69	87.09	6.80	118.9	

(System 161 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
31.83	17.65	73.37	22.00	114.9	760
37.26	24.80	69.80	25.50	118.3	
40.03	9.85	84.49	11.40	114.4	
40.60	16.80	76.75	17.45	113.3	
40.94	6.58	87.41	8.02	114.9	
41.82	12.18	81.52	13.33	114.4	
44.60	21.25	74.54	20.85	112.2	
45.13	30.42	68.01	28.23	110.0	
48.20	25.10	72.01	23.50	111.1	
49.85	44.44	60.14	38.30	106.1	
50.45	7.50	86.75	8.49	112.7	
54.34	38.25	64.64	33.55	106.7	
55.99	23.45	75.03	21.30	108.9	
56.07	17.97	79.18	16.40	110.0	
56.50	34.66	67.30	30.61	106.7	
57.12	10.69	86.38	9.88	110.0	
67.94	28.40	72.40	26.06	103.3	

SYSTEM 162-A

Reference 93

(A) Methyl Ethyl Ketone (B) n-Heptane (C) Toluene
C₄H₈O C₇H₁₆ C₇H₈

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
9.30	90.7	32.45	67.55	88.0	760
10.20	85.30	33.3	64.0		
11.30	79.10	34.4	60.0		
12.50	72.75	35.60	56.00		
15.55	59.55	38.75	48.00		
20.00	46.75	42.5	40.00		
25.40	34.25	47.10	32.00		
31.40	22.70	52.40	24.00		
38.00	13.55	58.50	16.00		
41.60	9.55	62.00	12.00		
45.50	6.00	65.80	8.00		
49.80	2.90	69.75	4.00		
54.3	0.00	73.85	0.00		
4.5	95.5	20.25	79.75	92.0	760
5.5	85.25	21.75	72.00		
6.75	74.5	23.75	64.0		
8.35	63.6	26.30	56.0		
10.50	52.50	29.45	48.0		
13.35	41.55	33.20	40.0		
16.95	30.90	37.55	32.0		
21.40	21.20	42.65	24.0		
26.55	12.85	48.50	16.0		
29.50	9.30	51.80	12.0		
32.50	6.00	55.2	8.0		
35.75	2.95	58.70	4.0		
39.0	0.00	62.25	0.00		

(System 162-A Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
1.4	98.6	7.75	92.25	96.0	760
1.55	93.8	8.3	88.00		
1.95	84.55	9.45	80.00		
2.50	75.20	11.00	72.00		
3.40	65.60	13.25	64.0		
4.50	55.95	16.10	56.00		
6.15	46.30	19.40	48.00		
8.20	36.90	23.05	40.00		
10.70	27.90	27.30	32.00		
13.75	19.45	32.20	24.00		
17.65	12.00	37.85	16.00		
19.70	8.80	40.80	12.00		
21.90	5.75	43.90	8.00		
24.20	2.80	47.05	4.00		
26.25	0.00	50.30	0.00		
0.00	68.70	0.00	73.55	100.0	760
0.05	67.00	0.35	72.00		
0.30	63.70	1.25	68.00		
0.50	58.45	2.35	64.00		
0.90	54.15	3.65	60.00		
1.30	49.90	5.00	56.00		
2.30	41.25	8.25	48.00		
3.60	33.0	11.90	40.00		
5.50	25.15	16.00	32.00		
7.80	17.80	20.65	24.00		
10.55	11.2	26.00	16.00		
12.05	8.20	28.85	12.00		
13.50	5.40	31.70	8.00		
15.00	2.65	34.60	4.00		
16.55	0.00	37.55	0.00		

(System 162-A Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
0.00	29.30	0.00	39.4	104.0	760
0.50	26.30	1.60	36.0		
1.10	22.90	3.55	32.0		
1.9	19.5	5.7	28.0		
2.75	16.35	7.95	24.0		
3.70	13.25	10.25	20.0		
4.70	10.30	12.80	16.00		
5.75	7.55	15.5	12.00		
6.85	5.0	18.3	8.0		
7.9	2.5	21.15	4.00		
8.9	0.00	24.05	0.00		
0.00	8.35	0.00	14.30	108.0	760
0.50	6.85	1.40	12.00		
1.40	4.45	4.0	8.00		
2.25	2.10	6.85	4.0		
3.05	0.00	9.80	0.00		

SYSTEM 162-B

Reference 93

(A) Methyl Ethyl Ketone (B) n-Heptane (C) Toluene
C₄H₈O C₇H₁₆ C₇H₈

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
0.0	35.4	0.0	45.4	102.95	760
0.2	47.4	0.0	56.4	101.45	
1.1	34.7	3.5	43.7	102.1	
1.6	48.3	5.1	55.2	100.1	
3.8	33.3	12.4	39.9	99.9	
6.1	54.2	19.4	53.3	95.1	
7.3	18.4	19.7	24.7	100.15	
9.9	59.0	28.3	52.2	91.72	
10.9	31.6	28.4	34.5	95.05	
11.8	63.4	33.5	52.2	89.62	
18.3	30.1	38.8	31.1	91.75	
14.8	67.5	39.2	51.6	87.15	
15.5	18.6	35.0	22.4	95.1	
19.1	70.5	44.4	50.6	84.85	
19.8	11.2	40.6	14.9	95.1	
20.8	50.6	43.5	41.8	87.12	
24.1	28.9	45.5	29.0	89.52	
28.2	47.7	50.4	38.1	84.85	
28.6	11.1	50.3	14.4	91.73	
31.6	27.7	52.5	27.1	87.15	
35.0	11.3	56.4	14.0	89.50	
39.4	43.1	57.9	34.2	82.18	

(System 162-B Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
40.3	26.3	58.7	25.3	84.85	760
48.2	14.9	65.4	16.6	84.9	
49.9	15.4	66.1	17.2	84.5	
51.4	37.9	64.5	31.0	79.92	
57.8	17.3	70.0	18.6	82.25	
58.8	34.6	68.5	29.0	78.82	
65.8	19.6	73.2	20.3	80.0	
65.8	31.4	71.6	27.4	77.85	
68.8	30.0	73.0	26.7	77.45	
70.4	20.6	75.1	21.2	78.82	
70.6	29.4	73.6	26.4	77.15	
73.8	21.7	76.3	21.9	78.0	
74.3	22.5	76.2	22.7	78.0	
76.7	22.5	77.4	22.5	77.2	
85.6	12.7	83.8	15.7	78.0	
93.5	4.3	92.5	7.1	78.9	
97.2	0.4	98.6	0.6	79.7	

SYSTEM 163

Reference 46

(A) Nitric Acid (B) Water (C) Sulphuric Acid
HNO₃ H₂O H₂O₄S

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
3.80	71.8	23.0	76.9	116.0	300
4.80	83.0	8.0	92.0	98.0	
4.88	86.12	1.2	98.8	89.0	
6.00	77.6	12.4	87.6	104.0	
6.50	68.4	38.3	61.7	116.5	
7.20	62.6	72.5	27.5	121.0	
8.27	86.37	0.94	99.0	85.0	
8.40	76.90	12.9	87.1	102.0	
9.0	71.2	31.4	68.6	106.5	
9.08	88.42	1.77	98.3	87.0	
10.25	79.70	0.40	99.6	94.5	
11.1	74.3	43.9	56.1	105.0	
12.3	66.7	75.9	24.1	106.0	
14.1	79.54	3.0	97.0	93.5	
14.1	58.1	98.6	1.4	95.0	
14.6	56.0	94.2	5.8	105.0	
16.2	81.03	6.35	93.7	92.0	
16.8	76.9	10.9	89.1	96.0	
18.1	70.3	37.4	62.6	98.0	
18.5	65.6	76.7	23.3	100.0	
21.2	76.01	15.2	84.8	97.0	
21.7	71.52	37.8	62.2	97.0	
23.5	58.2	97.4	2.6	71.5	
23.5	50.8	93.3	6.7	80.0	
24.2	63.5	78.4	21.6	97.6	
27.2	69.44	27.5	72.5	96.0	
30.3	61.67	58.2	41.8	94.0	
31.9	64.5	51.8	48.2	95.0	

(System 163 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
33.3	25.9	99.8	0.2	71.0	300
40.6	26.9	99.0	1.0	66.5	
41.7	52.94	85.0	15.0	89.0	
47.4	35.4	99.3	0.69	71.0	
49.00	41.17	90.9	9.13	71.5	
51.8	43.42	96.5	3.5	78.5	
3.10	73.6	23.0	77.0	127.5	440
4.79	86.23	0.88	99.1	100.0	
5.40	78.30	12.10	87.9	114.5	
6.2	80.0	8.3	91.6	106.0	
6.7	68.2	37.9	62.1	127.5	
7.7	60.0	71.4	28.6	132.0	
8.42	86.05	0.94	99.0	97.5	
8.5	76.8	13.4	86.5	111.0	
9.0	72.0	31.4	68.6	116.0	
9.58	80.89	0.42	99.6	104.5	
9.80	87.63	1.25	98.70	95.0	
11.0	74.6	43.8	56.2	112.0	
12.7	65.3	75.7	24.3	116.0	
13.7	57.2	93.3	6.7	116.0	
14.9	78.61	3.0	97.0	103.0	
16.7	52.7	99.8	0.2	103.0	
17.3	71.2	34.7	65.3	108.0	
17.3	76.3	10.8	89.2	106.0	
17.9	45.9	98.6	1.4	106.0	
18.2	78.83	6.70	93.3	80.0	
18.6	65.4	76.3	23.7	105.5	
20.50	72.51	37.3	62.7	106.0	
22.3	52.7	93.4	6.6	89.0	
24.0	58.2	94.5	5.5	82.0	

(System 163 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
24.5	72.2	20.9	79.1	104.5	440
24.6	63.0	77.9	22.1	102.5	
26.3	70.32	22.4	77.6	104.0	
30.6	61.42	56.6	43.4	104.5	
31.1	65.35	47.6	52.4	103.5	
32.8	28.0	99.8	0.2	82.5	
35.3	61.34	77.9	22.1	102.0	
38.1	31.4	99.3	0.7	80.0	
46.0	36.8	98.5	1.5	82.5	
48.4	41.9	88.8	11.2	84.5	
49.9	45.57	93.9	6.09	89.0	
3.0	73.8	21.7	78.3	135.0	550
4.70	86.72	0.7	99.3	107.5	
4.9	82.3	7.5	92.4	114.0	
5.5	77.9	12.1	87.9	120.5	
6.7	68.0	37.5	62.5	135.0	
8.3	59.9	69.8	30.2	137.5	
8.52	85.77	0.96	99.0	93.0	
8.70	77.0	13.4	86.6	117.5	
8.90	72.7	30.0	70.0	122.5	
10.14	80.30	3.80	96.2	111.5	
11.0	73.7	41.2	58.8	118.0	
12.8	65.3	74.3	25.7	122.0	
13.9	80.12	3.0	97.0	110.0	
14.0	55.9	93.6	6.4	124.0	
15.6	54.2	96.5	3.5	110.0	
17.2	71.4	31.8	68.2	114.5	
17.4	75.92	10.4	89.6	112.0	
17.7	44.9	98.6	1.4	112.5	
17.8	79.31	5.26	94.8	107.5	

(System 163 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
18.9	65.0	74.7	25.3	110.0	550
20.9	72.25	35.7	64.3	112.0	
23.0	51.6	90.5	9.5	100.0	
24.0	58.3	87.3	12.7	102.5	
25.0	61.9	76.7	23.3	110.0	
30.0	62.32	57.9	42.1	110.0	
31.9	64.47	46.6	53.4	110.0	
33.9	26.7	96.6	3.4	89.0	
37.5	32.5	98.6	1.4	86.5	
44.6	39.1	98.3	1.7	83.0	
46.5	49.18	77.1	22.9	97.5	
48.4	41.9	88.8	11.2	91.5	
53.4	41.73	90.8	9.19	92.5	
9.79	87.75	1.19	98.8	102.0	570
25.50	71.19	22.6	77.4	112.5	
3.1	73.4	20.9	79.1	145.0	760
4.9	81.9	7.2	92.8	124.0	
4.9	86.18	0.59	99.4	116.0	
5.5	76.9	17.2	82.8	130.0	
6.5	68.2	36.7	63.3	145.0	
7.3	62.5	71.0	29.0	147.0	
7.7	79.2	13.6	86.4	127.0	
8.43	85.81	0.90	99.0	113.0	
8.9	72.1	30.0	70.0	133.5	
9.05	81.15	3.0	97.0	121.5	
9.79	87.73	1.21	98.8	110.0	
10.50	72.2	41.0	59.0	128.0	
12.8	65.2	72.0	28.0	130.0	
13.6	57.3	8.2	91.8	134.0	

(System 163 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
13.8	80.3	3.0	97.0	119.5	760
15.8	53.3	95.9	4.1	120.0	
17.10	76.6	10.3	89.7	122.0	
17.6	45.9	97.1	2.9	118.0	
17.7	71.3	32.8	67.2	124.0	
18.2	78.92	4.98	95.0	117.0	
20.5	62.3	73.2	26.8	119.5	
21.6	71.64	33.9	66.1	122.0	
23.00	73.61	13.8	86.2	121.0	
23.1	52.4	91.8	8.2	110.0	
23.6	58.4	95.0	5.0	110.0	
23.8	73.01	15.2	84.8	121.2	
25.3	61.7	75.5	24.5	120.0	
25.7	70.94	22.3	77.6	121.5	
26.10	70.56	26.7	73.3	121.0	
30.40	61.78	54.2	45.8	120.0	
31.5	31.1	99.7	0.3	99.0	
33.3	62.72	46.2	53.8	120.5	
36.1	60.83	86.2	13.8	117.5	
40.3	28.5	97.2	2.8	97.5	
43.9	40.7	97.1	2.9	99.0	
48.8	41.28	87.8	12.2	120.5	
52.8	42.04	88.8	11.2	102.0	

SYSTEM 164

Reference 11

(A) Nitrogen
N₂(B) Methane
CH₄(C) n-Heptane
C₇H₁₆

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
0.2	16.3	5.4	92.85	25.0	27,500
0.5	38.7	5.31	93.6	25.0	77,300
0.8	27.6	5.79	93.2	25.0	51,980
1.2	47.0	7.87	90.8	25.0	102,700
2.2	54.0	6.85	91.0	25.0	127,400
2.7	61.9	6.60	89.9	25.0	153,900
4.0	70.5	6.5	87.1	25.0	180,000
4.3	73.1	7.9	85.8	25.0	185,000
4.7	76.1	5.5	84.9	25.0	190,000
0.9	35.2	5.1	92.8	55.0	76,600
1.9	51.3	6.2	90.6	55.0	127,200
3.3	68.3	5.8	86.4	55.0	179,400
4.1	74.3	6.5	81.8	55.0	189,200
0.5	13.0	4.2	91.8	85.0	26,420
1.0	33.9	5.8	91.1	85.0	76,600
2.0	49.4	6.1	98.7	85.0	127,200
3.6	76.3	3.9	76.2	85.0	189,200
3.7	73.5	4.1	75.2	85.0	184,200
4.1	69.5	4.9	82.1	85.0	179,400

SYSTEM 165

Reference 11

(A) Nitrogen (B) Methane (C) n-Hexane
N₂ CH₄ C₆H₁₄

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
0.3	16.2	5.4	92.0	25.0	27,500
0.9	27.8	4.8	93.4		61,900
1.2	39.2	7.0	90.9		77,300
2.1	48.5	8.2	88.8		102,200
2.7	58.3	5.7	89.6		127,300
3.7	68.9	8.0	83.8		153,500
3.8	72.6	6.3	82.3		158,400
4.9	77.1	4.6	77.9		174,000
0.3	14.2	7.8	87.3	55.0	27,500
1.7	35.5	6.7	89.9		77,300
2.6	55.3	6.0	88.2		127,300
3.5	71.5	4.7	80.8		158,400
4.0	65.4	6.3	82.8		153,500
4.3	76.8	4.6	76.8		166,400
0.3	12.6	5.8	82.9	85.0	27,000
1.6	33.3	4.7	89.3		76,100
2.0	53.7	5.2	85.0		127,200
3.3	60.3	5.8	80.7		142,700
3.6	71.4	4.7	70.3		152,800

SYSTEM 166

Reference 11

(A) Nitrogen (B) Methane (C) Mixed Hexane
 N_2 CH_4 C_6H_{14}

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
0.3	15.6	6.9	89.0	25.0	27,000
1.1	39.8	6.6	91.4		77,100
3.5	58.5	6.1	89.3		127,200
3.5	74.3	4.8	72.9		163,400
3.7	73.8	5.4	82.8		152,800

SYSTEM 167

Reference 11

(A) Nitrogen
N₂

(B) Methane
CH₄

(C) n-Pentane
C₅H₁₂

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
0.3	16.1	3.3	88.4	25.0	27,990
0.4	29.8	6.9	88.0		51,750
0.7	42.6	5.6	89.2		77,000
1.4	53.6	6.8	87.4		101,900
4.1	67.7	5.8	82.0		127,200
4.6	72.9	4.1	73.4		143,000
0.3	13.9	4.7	81.5	55.0	27,000
1.4	38.0	6.5	85.1		77,200
3.9	66.1	4.7	76.2		127,200
4.1	73.4	3.9	73.8		132,600
0.3	12.1	4.0	77.0	85.0	26,700
1.4	35.3	6.4	79.1		76,500
2.0	48.5	5.7	76.6		101,500
2.8	54.2	4.0	74.8		112,000
4.2	75.0	4.4	75.0		121,700

SYSTEM 168

Reference 11

(A) Nitrogen (B) Methane (C) Mixed Pentanes
 N_2 CH_4 C_5H_{12}

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
0.6	30.2	5.5	89.9	25.0	50,600
0.6	42.2	7.8	88.0	25.0	76,300
0.7	17.0	4.8	84.8	25.0	26,100
2.5	56.4	6.9	86.7	25.0	101,100

SYSTEM 169

Reference 26

(A) Iso-Octane
C₈H₁₈

(B) Toluene
C₇H₈

(C) Phenol
C₆H₆O

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
0.95	7.82	21.30	41.50	148.9	760
1.13	31.5	9.59	74.43	131.1	
1.64	14.80	23.82	53.55	139.4	
2.00	15.49	26.06	52.74	137.8	
2.92	22.57	26.60	56.44	132.8	
3.00	17.38	32.80	52.00	136.7	
3.12	22.18	27.68	55.78	133.3	
3.57	34.43	21.20	66.58	127.8	
3.65	9.55	45.80	32.04	137.8	
4.18	24.14	33.50	54.00	129.4	
4.48	29.72	29.60	58.68	126.7	
4.72	17.18	42.82	44.80	132.2	
5.35	29.15	33.22	54.98	126.7	
5.68	26.65	35.99	53.16	126.7	
5.90	16.80	47.31	39.09	128.9	
5.96	21.80	41.65	46.00	128.9	
6.44	1.26	83.34	3.06	122.7	
7.06	82.58	14.58	83.15	110.5	
7.14	43.88	29.20	62.34	120.0	
7.69	15.97	54.43	35.40	126.7	
7.70	9.89	65.17	23.58	124.9	
8.90	19.18	53.54	35.86	124.4	
9.00	35.10	39.42	52.88	121.1	
9.86	36.00	41.30	50.90	120.0	
10.20	58.90	27.08	67.30	115.6	
10.30	48.34	32.60	61.00	116.7	
10.56	30.24	47.60	44.20	118.3	
10.74	23.73	53.40	38.47	120.0	

(System 169 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	Liquid (B)	Vapor (A)	Vapor (B)		
10.79	14.31	64.70	26.20	122.2	760
10.79	41.58	38.47	54.35	115.6	
11.02	16.54	61.68	29.40	121.6	
11.21	12.20	67.80	22.70	121.6	
12.79	32.21	48.40	44.44	116.1	
12.92	17.71	64.25	29.60	119.4	
14.09	31.95	51.78	41.14	115.6	
14.35	26.73	56.70	36.85	115.6	
14.63	23.78	59.35	33.80	115.6	
15.08	32.52	51.73	40.74	115.0	
15.21	1.79	89.76	2.80	112.8	
16.10	64.10	33.03	63.00	111.6	
16.58	73.48	29.56	68.44	109.4	
17.10	34.80	51.98	41.89	114.9	
17.56	22.14	64.37	29.20	114.9	
17.80	6.62	83.49	10.05	113.3	
17.81	9.56	79.41	14.05	110.0	
18.10	80.08	27.67	71.65	106.1	
18.41	78.53	28.99	70.16	106.1	
18.80	27.85	59.34	33.30	114.4	
19.92	31.78	57.10	36.08	113.8	
21.18	8.96	82.78	12.00	112.7	
21.80	49.60	45.81	48.75	112.2	
21.94	37.23	53.93	40.10	113.3	
22.00	7.90	83.50	10.82	112.2	
22.80	2.80	91.10	3.70	110.0	
23.30	26.10	65.44	29.42	112.2	
23.80	55.40	44.16	52.10	110.0	
23.87	14.92	76.04	18.00	113.3	
25.41	3.14	90.98	3.89	110.0	
26.34	9.80	82.42	11.80	111.6	

(System 169 Cont.)

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
26.42	62.10	40.96	56.40	107.8	760
27.43	31.81	61.48	32.92	112.2	
27.50	8.90	82.59	10.38	110.5	
29.48	41.38	54.32	40.70	110.5	
30.42	14.78	79.43	15.88	110.5	
36.69	43.43	55.75	39.87	107.8	
37.54	3.11	92.25	3.30	108.3	
39.19	18.91	75.71	18.77	110.5	
42.50	48.50	56.31	41.15	105.6	
43.97	49.85	55.33	42.71	104.4	
44.30	53.50	52.30	46.70	108.9	
47.07	4.03	91.67	3.90	107.2	
48.50	24.57	72.21	22.35	107.8	
51.45	8.25	87.58	7.80	107.2	
52.02	28.09	71.30	24.59	105.6	
57.35	33.25	68.52	28.60	104.4	
58.80	11.70	84.37	10.39	106.1	
68.49	11.16	85.41	9.85	104.4	
73.60	16.77	82.06	14.68	102.2	
81.66	8.54	88.34	7.50	101.7	

SYSTEM 170

Reference 88

(A) Isopropyl Alcohol $\text{C}_3\text{H}_8\text{O}$ (B) Water H_2O (C) Nitromethane CH_3NO_2

Mole % in				Temp. $^{\circ}\text{C}$	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
9.5	86.0	40.8	35.3	Not given	760
10.9	79.8	33.5	33.7		
16.8	57.0	28.2	37.3		
17.1	79.4	50.5	33.8		
19.5	72.4	43.0	32.9		
21.2	65.7	35.8	34.5		
22.6	15.2	30.8	31.0		
25.0	53.3	35.3	33.9		
27.3	65.1	47.0	33.6		
28.6	40.6	37.6	29.4		
29.2	58.9	43.5	32.6		
33.9	61.2	52.8	33.6		
34.2	45.4	42.2	30.4		
39.4	30.8	45.3	21.3		
40.5	47.8	50.0	29.2		
46.6	33.9	53.7	21.6		
53.6	13.4	52.5	17.6		
60.3	35.3	64.2	26.0		
64.9	27.1	62.3	22.6		
70.2	17.7	65.0	17.1		

SYSTEM 171

Reference 26

(A) Toluene
 C_7H_8

(B) Isononane
 C_9H_{20}

(C) Phenol
 C_6H_6O

Mole % in				Temp. °C	Pressure mm. Hg
Liquid		Vapor			
(A)	(B)	(A)	(B)		
2.3	20.36	5.69	77.91	132.8	760
4.10	14.95	10.70	73.3	133.3	
6.50	30.30	13.18	75.52	130.0	
11.62	17.02	27.38	60.26	131.4	
14.16	4.54	47.46	31.96	140.0	
15.31	21.78	29.76	59.38	127.2	
15.76	2.26	60.40	18.33	141.1	
15.80	14.42	36.20	49.59	131.7	
17.23	19.05	36.60	51.88	127.8	
17.46	7.94	47.49	36.61	134.9	
19.36	5.06	26.10	57.50	133.8	
20.00	34.20	31.59	58.52	122.2	
20.40	10.00	46.25	38.46	131.7	
20.45	11.66	45.74	41.57	130.0	
21.20	13.38	45.65	41.48	128.3	
22.05	3.53	63.23	19.12	137.8	
24.45	16.32	46.35	41.68	126.7	
25.20	22.45	42.94	46.98	124.4	
25.40	4.87	63.85	21.25	132.8	
26.60	6.71	59.66	26.40	130.0	
28.42	3.79	69.34	16.58	129.8	
30.20	16.55	51.50	37.81	123.8	
31.06	6.54	66.90	20.62	127.8	
33.80	2.89	77.01	11.17	127.8	
35.56	12.94	59.00	30.11	124.7	

SYSTEM 172

Reference 46

(A) Water
 H_2O (B) Acetic Acid
 $\text{C}_2\text{H}_4\text{O}_2$ (C) Sulphuric Acid
 $\text{H}_2\text{O}_4\text{S}$

Mole % in				Temp. °C	Pressure mm. Hg
Liquid (A)	(B)	Vapor (A)	(B)		
1.51	74.38	19.56	80.44	140	761
2.51	85.03	8.46	91.54	128	
3.26	60.54	21.99	78.01	160	
4.21	90.74	6.67	93.33	121	
4.29	28.17	41.12	58.88	250	
4.53	39.63	38.29	61.71	200	
4.93	14.74	76.92	23.08	298	
5.20	49.92	25.18	74.82	170	
8.11	8.44	77.77	22.23	250	
20.61	75.07	27.02	72.98	115	759
34.83	47.04	27.02	72.98	130	760
36.10	10.84	75.32	24.68	200	762
37.07	20.22	60.91	39.01	170	
50.92	43.48	45.29	54.71	110	
51.36	27.22	36.85	63.15	136	
51.49	21.14	45.14	54.86	148	
52.69	37.46	45.14	54.86	115	
55.80	16.29	58.82	41.18	150	
59.46	30.65	56.77	43.23	113	
59.68	9.34	76.78	23.22	160	
63.14	25.26	58.47	41.53	115	
64.18	17.93	58.58	41.52	130	760
68.51	5.48	88.60	11.40	150	762
70.19	26.57	76.92	23.08	105	761
74.80	11.33	76.85	23.15	120	760
79.04	16.60	81.43	18.57	105	761
81.21	9.82	88.70	11.30	110	
88.48	7.15	92.98	7.02	105	
					763

SYSTEM 173

Reference 26

(A) Iso-Octane
C₈H₁₈

(B) Methyl Cyclohexane
C₇H₁₄

(C) Toluene
C₇H₈

(D) Phenol
C₆H₆O

Mole % in						Temp. °C	Pres- sure mm. Hg
Liquid (A)	(B)	(C)	(A)	Vapor (B)	(C)		
1.96	5.57	23.40	19.09	28.00	49.37	124.9	760
3.00	12.88	35.10	10.58	35.49	46.18		
3.06	15.25	23.19	12.83	46.00	33.40	118.3	
4.79	1.83	25.35	32.16	8.31	49.32	123.8	
4.96	43.12	33.41	7.85	58.35	30.70	106.1	
7.72	67.09	12.51	9.69	74.94	11.48	102.2	
7.97	26.27	18.88	18.82	52.63	21.15	115.6	
8.54	4.16	41.20	29.45	11.25	52.20	116.1	
8.92	7.84	17.56	40.60	24.85	26.40	117.2	
9.53	38.68	41.08	13.16	48.16	36.06	104.9	
10.48	5.13	34.81	37.10	14.20	42.42	116.7	
12.09	23.85	13.70	30.35	48.95	15.02	111.6	
13.50	12.70	22.40	38.98	28.45	26.20	112.0	
20.36	17.66	18.23	43.68	31.33	18.44	110.0	
25.56	5.59	14.00	67.75	11.61	15.15	110.0	
39.96	7.13	43.12	50.17	9.77	37.60	100.6	
41.02	3.95	34.40	58.36	6.07	31.57	107.2	
72.15	5.55	10.49	78.30	6.82	9.73	101.7	

Reference 42

SYSTEM 174

(A) Methane CH ₄	(B) Ethane C ₂ H ₆	(C) Propane C ₃ H ₈	(D) n-Pentane n-C ₅ H ₁₂	(E) n-Hexane n-C ₆ H ₁₄					
Mole % in									
Liquid		Vapor		Temp.					
(A)	(B) (C)	(D)	(A) (B) (C) (D)	°C					
30.42	13.11	20.26	20.21	78.01	11.02	7.87	2.23	37.8	54,070
34.72	13.25	18.93	16.13	8.04	10.39	0.70	1.40	37.8	63,800
38.58	13.14	17.55	14.49	76.45	11.69	8.36	2.15	37.8	73,300
45.12	13.08	14.90	12.56	78.53	10.22	7.64	1.98	37.8	74,700
55.74	12.22	13.69	8.51	76.47	10.22	7.79	3.09	37.8	94,300

(A) Helium He		(B)	Nitrogen N ₂		(C)	Methane CH ₄		(D)	Ethane C ₂ H ₆		(E)	Propane C ₃ H ₈		(F)	Butane C ₄ H ₁₀									
		Mole % in																						
		Liquid		(D)		(E)		(A)		(B)		Vapor		(C)		(D)		(E)		Temp. °C		Pres- sure mm. Hg		
(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)	(A)	(B)	(C)	(D)	(E)	(A)	(B)
-	0.6	13.9	27.5	44.4	0.35	10.25	84.6	0.35	10.25	84.6	4.2	0.4	-	-89.7	5,171									
-	0.4	18.7	32.0	36.5	0.35	10.62	85.27	0.35	10.62	85.27	3.49	0.19	-	-98.3										
-	0.9	24.6	33.7	32.8	0.36	10.34	86.50	0.36	10.34	86.50	2.40	--	-	-103.4										
-	0.5	23.5	35.2	30.7	0.36	10.88	86.56	0.36	10.88	86.56	2.02	0.09	-	-106.1										
-	0.5	29.9	36.3	28.8	0.35	10.72	87.5	0.35	10.72	87.5	1.43	--	-	-111.7										
-	1.2	54.2	24.3	15.8	0.38	12.04	85.87	0.38	12.04	85.87	1.46	0.25	-	-124.3										
-	1.4	75.0	13.2	8.3	0.54	16.76	82.07	0.54	16.76	82.07	0.63	--	-	-130.6										
-	4.6	82.9	7.2	4.3	2.2	41.3	56.5	2.2	41.3	56.5	--	--	-	-140.6										
-	5.5	92.7	1.7	0.10	2.2	38.3	59.5	2.2	38.3	59.5	--	--	-	-142.2										
-	7.2	89.8	2.6	0.40	3.9	41.1	55.0	3.9	41.1	55.0	--	--	-	-141.9										
-	0.70	87.8	4.6	0.40	4.5	48.7	46.8	4.5	48.7	46.8	--	--	-	-145.3										
-	9.0	87.0	3.7	0.20	6.2	37.3	56.5	6.2	37.3	56.5	--	--	-	-148.3										
-	9.98	87.72	2.10	0.10	10.7	37.3	52.0	10.7	37.3	52.0	--	--	-	-150.0										

Reference 76

SYSTEM 176

(A) Methane CH ₄		(B) Ethane C ₂ H ₆		(C) Propane C ₃ H ₈		(D) Butane C ₄ H ₁₀	
(E) Pentane C ₅ H ₁₂		(F) Hexane C ₆ H ₁₄		(G) Heptane & Heaviers C ₇ H ₁₆			
		Mole % in		Vapor		Temp.	
						°C	
						mm. Hg	

(System 176 Cont.)

(A) Methane CH ₄		(B) Ethane C ₂ H ₆		(C) Propane C ₃ H ₈		(D) Butane C ₄ H ₁₀							
(E) Pentane C ₅ H ₁₂		(F) Hexane C ₆ H ₁₄		(G) Heptane & Heaviers C ₇ H ₁₆									
		Mole % in											
		Liquid		Vapor		Temp.							
(A)	(B)	(C)	(D)	(E)	(F)	(A)	(B)	(C)	(D)	(E)	(F)	°C	Pres- sure mm. Hg
70.91	4.01	2.12	1.91	1.42	1.67	84.25	3.93	1.82	1.55	1.08	1.23	48.9	410,000
72.72	3.98	2.04	1.81	1.35	1.56	82.36	3.95	1.85	1.62	1.12	1.27		484,000
59.12	4.16	2.46	2.38	1.97	2.45	88.68	3.83	1.68	1.41	0.87	0.88		244,200
68.53	4.10	2.23	1.97	1.57	1.87	85.83	3.84	1.78	1.51	1.01	1.15		349,300
20.64	2.91	2.46	3.27	3.55	5.35	91.57	4.09	1.76	1.19	0.61	0.39	93.3	54,100
28.88	3.34	2.91	3.38	3.16	5.28	91.56	4.01	1.71	1.17	0.59	0.45		82,800
33.34	3.63	2.92	3.29	3.20	4.18	91.31	3.99	1.69	1.15	0.63	0.46		98,500
39.96	3.93	3.01	3.07	2.79	3.91	91.11	3.98	1.69	1.20	0.64	0.50	93.3	129,100
49.04	4.16	2.71	2.81	2.41	3.16	89.92	3.85	1.72	1.30	0.79	0.65		181,000
51.43	4.05	2.58	2.54	2.21	2.84	89.70	3.85	1.74	1.30	0.79	0.65		195,800

(System 176 Cont.)

(A) Methane CH ₄		(B) Ethane C ₂ H ₆		(C) Propane C ₃ H ₆		(D) Butane C ₄ H ₁₀							
(E) Pentane C ₅ H ₁₂		(F) Hexane C ₆ H ₁₄		(G) Heptane & Heaviers C ₇ H ₁₆									
Liquid				Mole % in				Vapor		Temp.		Pres- sure mm. Hg	
(A)	(B)	(C)	(D)	(E)	(F)	(A)	(B)	(C)	(D)	(E)	(F)	°C	
59.38	4.10	2.43	2.25	1.84	2.24	88.33	3.96	1.91	1.42	0.90	0.92		256,400
61.27	3.90	2.07	2.09	1.65	2.08	87.75	3.88	1.78	1.37	0.88	0.84		279,300
63.19	4.01	2.29	2.13	1.71	1.20	86.97	3.86	1.73	1.53	0.91	0.97		296,200
67.94	4.01	2.07	1.96	1.50	1.76	84.04	3.84	1.81	1.47	1.99	0.95		348,000
71.05	3.97	2.10	1.85	1.44	1.65	84.12	3.77	1.83	1.47	1.03	1.09		386,000
71.99	4.0	2.14	1.73	1.33	1.53	83.47	3.88	1.85	1.50	1.06	1.08		408,000
76.35	3.99	2.06	1.70	1.26	1.45	83.18	3.91	1.87	1.55	1.06	1.10		411,800
71.87	3.97	2.11	1.87	1.49	1.55	83.32	3.90	1.83	1.48	1.10	1.18		417,000

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INDEX

Chemical Formula	Name	Other Components	System Number	Page
A	Argon	Nitrogen	105	162
Br ₂	Bromine	Water	25	36
CCl ₄	Carbon tetrachloride	Benzene	39-A,B	52,53
		Carbon disulphide	37	50
		Cyclohexane	40	54
		Ethanol	41-A,B	55,56
		Ethyl acetate	42-A,B	57,58
		Ethyl ether	64-A,B	98,99
		Methanol	86	139
		n-Propyl alcohol	43	59
		Toluene	44	60
		Toluene and Ethylene bromide	152	241
CHCl ₃	Chloroform	Acetone	12-A,B,C	13,14,15
		Benzene	45	61
		Dimethoxymethane	52	71
		Ethanol	46	62
		Methyl iodide	101	158
		Water and acetone	147	230
CH ₂ O ₂	Formic acid	Water	138	220
CH ₃ I	Methyl iodide	Benzene	100	157
		Chloroform	101	158
		Ethyl ether	66	101
CH ₃ NO ₂	Nitro-methane	i-Propyl alcohol	109	175
		Water	141	226
		i-Propyl alcohol and water	170	280
CH ₄	Methane	i-Butane	80	119
		n-Butane	81	121
		Decane	82	125
		n-Pentane	83	130
		Propane	84-A,B	133,135
		n-Butane and decane	158	252
		Ethylene and i-Butane	159	256
		Nitrogen and n-Heptane	164	272
		Nitrogen and n-Hexane	165	273
		Nitrogen and Mixed hexane	166	274
		Nitrogen and n-Pentane	167	275
		Nitrogen and Mixed pentane	168	276
		Ethane, Propane, n-Pentane and n-Hexane	174	284
		Helium, Nitrogen, Ethane, Propane and Butane	175	285
		Ethane, Propane, Butane, Pentane, Hexane, Heptane and higher	176	286
CH ₄ O	Methanol	Acetone	15-A,B,C,D	18,19,20,21
		Benzene	85-A,B	137,138
		Carbon tetrachloride	86	139
		Ethanol	87	140
		Ethylene chloride	88	141
		Trichloroethylene	89	142
		Water	90-A,B,C	143,144,146
		Acetone and Water	149-A,B	233,235
		Ethanol and Water	160	257
C ₂ H ₂	Acetylene	Ethane and Ethylene	151	238
C ₂ H ₂ Cl ₄	1,1,2,2-Tetrachloroethane	i-Butanol	31	42
C ₂ H ₃ Cl ₃	Trichloroethylene	Ethanol	59	86
		Methanol	89	142

Chemical Formula	Name	Other Components	System Number	Page
C_2H_4	Ethylene	Acetylene and Ethane	151	238
		Methane and i-Butane	159	256
$C_2H_4Br_2$	Ethylene bromide	Carbon tetrachloride and Toluene	152	241
$C_2H_4Cl_2$	Ethylene chloride	Acetone	14	17
		Benzene	23	33
		Cyclo-hexane	48	67
		Methanol	88	141
		Toluene	70-A,B,C	105,106,107
C_2H_4O	Acetaldehyde	Acetic acid	1	1
		Ethanol	2	2
		Water	3	3
$C_2H_4O_2$	Acetic acid	Acetaldehyde	1	1
		Acetic anhydride	5	5
		Acetone	10	10
		Benzene	19-A,B	27,28
		Butyl cellosolve-acetate	7	7
		Ethyl acetate	61	94
		Meso-2,3 butylene glycol-diacetate	8	8
		Methyl n-amyl acetate	6	6
		Methyl n-amyl ketone	9	9
		Methyl vinyl carbinol acetate	102	159
		Triethyl amine	127	204
		Water	131-A,B	208,210
		Acetone and Water	150	237
		Water and Sulphuric acid	172	282
C_2H_5Br	Ethyl bromide	Benzene	63-A,B	96,97
C_2H_5ClO	Ethylene chlorohydrin	Benzene	22	32
		i-Butanol	30	41
		n-Butanol	33	44
		n-Butyl ether	67	102
		B,B dichloro-diethyl ether	68	103
		i-Propyl ether	122	194
		Toluene	69	104
C_2H_6	Ethane	n-Butane	55	75
		n-Heptane	56	81
		Acetylene and Ethylene	151	238
		Methane, Propane, n-Pentane and n-Hexane	174	284
		Helium, Nitrogen, Methane, Propane and Butane	175	285
		Methane, Propane, Butane, Pentane, Hexane and Heptane, and Heavier	176	286
C_2H_6O	Ethanol	Acetaldehyde	2	2
		Acetone	13	16
		Benzene	57-A,B,C	82,83,84
		Carbon tetrachloride	41-A,B	55,56
		Cellosolve	58	85
		Chloroform	46	62
		Ethyl acetate	62	95
		Methanol	87	140
		Trichloroethylene	59	86
		Water	60-A,B,C,D,E	87,88,89,90,93
		Benzene and Water	153	243
		Ethyl acetate and Water	154	244
		Water and Cellosolve	155	247
		Water and Di-oxane	156	250
		Water and Methanol	160	257
$C_2H_6O_2$	Ethylene glycol	Water	137	219
$C_3H_6Cl_2$	Propylene chloride	i-Propyl alcohol	124	196

Chemical Formula	Name	Other Components	System Number	Page
C_3H_6O	Acetone	Acetic acid	10	10
		n-Butanol	11-A,B	11,12
		Carbon-disulphide	36	49
		Chloroform	12-A,B,C	13,14,15
		Ethanol	13	16
		Ethylene chloride	14	17
		Methanol	15-A,B,C,	18,19,20
		Water	16-A,B	22,24
		Chloroform and Water	147	230
		n-Heptane and Methylcyclohexane	148	232
		Methanol and Water	149-A,B	233,235
		Water and Acetic acid	150	237
$C_3H_6O_2$	Methyl acetate	Benzene	91	147
C_3H_8	Propane	i-Butylene	119-A,B	188,190
		Methane	84-A,B	133,134
		Methane, Ethane, n-Pentane and n-Hexane	174	284
		Helium, Nitrogen, Methane, Ethane and Butane	175	285
		Methane, Ethane, Butane, Pentane, Hexane, Heptane, and Heavier	176	286
C_3H_8O	Iso-propyl alcohol	Nitro-methane	109	175
		Propylene chloride	124	196
		i-Propyl ether	123	195
		Water	120	192
		Nitromethane and Water	170	280
C_3H_8O	n-Propyl alcohol	Carbon tetrachloride	43	59
		Water	121	193
$C_3H_8O_2$	Di-methoxy methane	Benzene	51	70
		Chloroform	52	71
		Ethyl ether	65	100
$C_4H_6O_3$	Acetic anhydride	Acetic acid	5	5
C_4H_8	1-Butene	Furfural	34	45
C_4H_8	i-Butylene	Propane	119-A,B	188,190
$C_4H_8Cl_2O$	B, B'-dichloro-diethyl ether	Ethylene chlorohydrin	68	103
C_4H_8O	Methyl ethyl ketone	Benzene	95	151
		n-Heptane	96	152
		Toluene	97	153
		Water	98	154
		n-Heptane and Toluene	162-A,B	262,265
C_4H_8O	3-Hydroxy-3-methyl-2-butanone	Water	142	224
$C_4H_8O_2$	Acetyl methyl carbinol	Water	132	211
$C_4H_8O_2$	Di-oxane	Ethanol and Water	156	250
$C_4H_8O_2$	Ethyl acetate	Acetic acid	61	94
		Carbon tetrachloride	42-A,B	57,58
		Ethanol	62	95
		Ethanol and Water	154	244
C_4H_{10}	n-Butane	Ethane	55	75
		Furfural	27	38
		n-Heptane	28	39
		Hydrogen chloride	77	115

Chemical Formula	Name	Other Components	System Number	Page
C_4H_{10} Cont.	n-Butane	Methane	81	121
		Water	29	40
		Methane and Decane	158	252
		Helium, Nitrogen, Methane, Ethane and Propane	175	285
		Methane, Ethane, Propane, Pentane, Hexane and Heptane	176	286
C_4H_{10}	i-Butane	Furfural	26	37
		Hydrogen	74	112
		Methane	80	119
		Methane and Ethylene	159	256
$C_4H_{10}O$	i-Butanol	Ethylene chlorohydrin	30	41
		1,1,2,2 Tetrachloro-ethane	31	42
		Water	133	212
$C_4H_{10}O$	n-Butanol	Acetaldehyde di-butyl acetal	4	4
		Acetone	11-A,B	11,12
		n-Butyl acetate	32	43
		Ethylene chlorohydrin	33	44
		Water	134	213
$C_4H_{10}O$	Ethyl ether	Carbon monoxide	38	51
		Carbon tetrachloride	64-A,B	98,99
		Dimethoxy methane	65	100
		Methyl iodide	66	101
$C_4H_{10}O_2$	Cellosolve	Ethanol	58	85
		Water	136	218
		Ethanol and Water	155	247
$C_4H_{10}O_2$	Levo-2,3 butylene glycol	Meso-butylene-diacetate	35	47
		Methyl vinyl-carbinol acetate	103	160
$C_4H_{10}O_2$	Meso-2,3 butylene glycol	Water	135-A,B	214,216
$C_5H_4O_2$	Furfural	i-Butane	26	37
		n-Butane	27	38
		1-Butene	34	45
		2-Methyl furan	99	156
		Water	139	221
C_5H_6O	2-Methyl furan	Furfural	99	156
$C_5H_{10}O_2$	3-Hydroxy-3-methyl-2-butanone	Water	142	224
C_5H_{12}	n-Pentane	n-Heptane	113-A,B	179,180
		Methane	83	130
		Nitrogen and Methane	167	275
		Methane, Ethane, Propane and n-Hexane	174	284
		Methane, Ethane, Propane, Butane, Hexane, Heptane, and Heavier	176	286
C_5H_{12}	Mixed Pentanes	Nitrogen and Methane	168	276
$C_5H_{12}O$	Active amyl alcohol	i-Amyl alcohol	18	26
$C_5H_{12}O$	i-Amyl alcohol	Active Amyl alcohol	18	26
$C_5H_{12}O$	2-Methyl 3-butyne-2-ol	Water	143	225
C_6H_6	Benzene	Acetic acid	19-A,B	27,28
		Carbon-tetrachloride	39-A,B	52,53
		Chloroform	45	61
		Cyclo-hexane	20-A,B	29,30

Chemical Formula	Name	Other Components	System Number	Page
C_6H_6 Cont.	Benzene	Cyclo-hexene	21	31
		Dimethoxy methane	51	70
		2,4 Dimethyl pentane	53	72
		Ethanol	57-A,B,C	82,83,84
		Ethyl bromide	63-A,B	96,97
		Ethylene chlorohydrin	22	32
		Ethylene dichloride	23	33
		n-Hexane	73	111
		Methanol	85-A,B	137,138
		Methyl acetate	91	147
		Methyl cyclo-pentane	94	150
		Methyl ethyl ketone	95	151
		Methyl iodide	100	157
		Toluene	24-A,B	34,35
		2,2,3 Trimethyl-butane	128	205
		Ethanol and Water	153	243
C_6H_6O	Phenol	m-Cresol	114	181
		o-Cresol	115	182
		p-Cresol	116	183
		2,6 Dimethyl pyridine	54	73
		Methyl cyclo hexane	92	148
		i-Nonane	110	176
		i-Octane	111	177
		β -Picoline	117	184
		α -Picoline	118	186
		Toluene	126	203
		Water	145	227
		Methyl cyclo-hexane and Toluene	161	259
		Toluene and i-Nonane	171	281
		i-Octane and Toluene	169	277
		i-Octane, Methyl cyclo hexane and Toluene	173	283
C_6H_7N	β -Picoline (methyl pyridine)	Phenol	117	184
C_6H_7N	α -Picoline	Phenol	118	186
C_6H_{10}	Cyclo-hexene	Benzene	21	31
		Cyclo-hexane	47	66
$C_6H_{10}O_2$	Methyl vinyl-carbinol acetate	Acetic acid	102	159
		Levo-2,3 butylene glycol	103	160
C_6H_{12}	Cyclo-hexane	Benzene	20-A,B	29,30
		Carbon tetrachloride	40	54
		Cyclo-hexene	47	66
		Ethylene dichloride	48	67
		Methyl cyclohexane	49	68
		2,2,3 Trimethyl butane	50	69
C_6H_{12}	Methyl cyclo pentane	Benzene	94	150
$C_6H_{12}O_2$	n-Butyl acetate	n-Butanol	32	43
C_6H_{14}	n-Hexane	Benzene	73	111
		Nitrogen and Methane	165	273
		Methane, Ethane, Propane, and n-Pentane	174	284
		Methane, Ethane, Propane, Butane, Pentane, and Heptane	176	286
C_6H_{14}	Mixed hexane	Nitrogen and Methane	166	274
$C_6H_{14}O$	i-Propyl ether	Ethylene chlorohydrin	122	194
		i-Propanol	123	195
$C_6H_{15}N$	Triethyl amine	Acetic acid	127	204

Chemical Formula	Name	Other Components	System Number	Page
C_7H_8	Toluene	Benzene	24-A,B	34,35
		Carbon tetrachloride	44	60
		Ethylene chlor-hydrin	69	104
		Ethylene chloride	70-A,B,C	105,106,107
		n-Heptane	72-A,B	109,110
		Methyl cyclohexane	93	149
		Methyl ethyl ketone	97	153
		i-Octane	112	
		n-Octane	125-A,B	197,198
		Phenol	126	203
		Carbon tetrachloride and Ethylene bromide	152	241
		n-Heptane and Methyl cyclo-hexane	157	251
		Methyl cyclo-hexane and Phenol	161	259
		Methyl ethyl ketone and n-Heptane	162-A,B	262,265
		i-Nonane and Phenol	171	281
		i-Octane and Phenol	169	277
		i-Octane, Methyl cyclo hexane, and Phenol	173	283
C_7H_8O	m-Cresol	Phenol	114	181
C_7H_8O	o-Cresol	Phenol	115	182
C_7H_8O	p-Cresol	Phenol	116	183
C_7H_9N	2,6 Dimethyl pyridine	Phenol	54	73
C_7H_{14}	Methyl cyclo Hexane	Cyclo-hexane	49	68
		n-Heptane	71	108
		Phenol	92	148
		Toluene	93	149
		2,2,4 Trimethyl-pentane	129	206
		Acetone and n-Heptane	148	232
		n-Heptane and Toluene	157	251
		Toluene and Phenol	161	259
		i-Octane, Toluene and Phenol	173	283
$C_7H_{14}O$	Methyl n-amyl-ketone	Acetic acid	9	9
C_7H_{16}	2-4 Dimethyl pentane	Benzene	53	72
C_7H_{16}	n-Heptane	n-Butane	28	39
		Ethane	56	81
		Methyl cyclo-hexane	71	108
		Methyl ethyl ketone	96	152
		Nitrogen	106	163
		n-Pentane	113-A,B	179,180
		Toluene	72-A,B	109,110
		Methyl cyclo hexane and Acetone	148	232
		Methyl cyclo hexane and Toluene	157	251
		Methyl ethyl ketone and Toluene	162-A,B	262,265
		Nitrogen and Methane	164	272
		Methane, Ethane, Propane, Butane, Pentane and Hexane	176	286
C_7H_{16}	2,2,3 Trimethyl butane	Benzene	128	205
		Cyclo-hexane	50	69
$C_8H_{12}O_3$	Butyl cellosolve-acetate	Acetic acid	7	7

Chemical Formula	Name	Other Components	System Number	Page
$C_8H_{14}O_4$	Meso-2,3 butylene glycol di-acetate	Acetic acid	8	8
$C_8H_{14}O_4$	Meso butylene-di-acetate	Levo-2,3 butylene-glycol	35	47
$C_8H_{16}O_2$	Methyl-n-amyl-acetate	Acetic acid	6	6
C_8H_{18}	i-Octane	Phenol	111	177
		Toluene	112	178
		Toluene and Phenol	169	277
		Methyl cyclo-hexane, Toluene, and Phenol	173	283
C_8H_{18}	n-Octane	Toluene	125-A,B	197,198
		2,2,4 Trimethyl-pentane	130	207
C_8H_{18}	Trimethyl pentane	Hydrogen	76	114
C_8H_{18}	2,2,4 Trimethyl pentane	Methyl cyclo-hexane	129	206
		n-Octane	130	207
$C_8H_{18}O$	n-Butyl ether	Ethylene chlor-hydrin	67	102
C_9H_{20}	i-Nonane	Phenol	110	176
		Toluene and Phenol	171	281
$C_{10}H_{22}$	Decane	Methane	82	125
		Methane and n-Butane	158	252
$C_{10}H_{22}O_2$	Acetaldehyde-di-Butyl-acetal	n-Butanol	4	4
$C_{12}H_{26}$	Isomeric dodecane	Hydrogen	75	113
CO	Carbon monoxide	Ethyl ether	38	51
CS ₂	Carbon disulphide	Acetone	36	49
		Carbon tetrachloride	37	50
ClH	Hydrogen chloride	n-Butane	77	115
		Water	78	117
FH	Hydrogen fluoride	Water	79	118
HNO ₃	Nitric Acid	Nitrogen tetroxide	108	174
		Water	104	161
		Water and Sulphuric Acid	163	267
H ₂	Hydrogen	i-Butane	74	112
		Isomeric dodecane	75	113
		Trimethyl pentane	76	114
H ₂ O	Water	Acetaldehyde	3	3
		Acetic acid	131-A,B	208,210
		Acetone	16-A,B	22,24
		Acetylmethyl-carbinol	132	211
		Ammonia	17	25
		n-Butane	29	40
		i-Butanol	133	211
		n-Butanol	134	213
		Bromine	25	36
		Cellosolve	136	218
		Ethanol	60-A,B,C,D,E	87,88,89,90,93
		Ethylene glycol	137	219
		Formic acid	138	220
		Furfural	139	221
		Hydrazine	140	222
		Hydrazine hydrate	141	223
		Hydrogen chloride	78	117
		Hydrogen fluoride	79	118

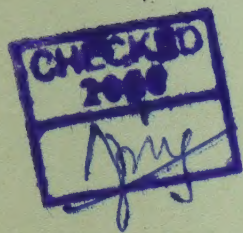
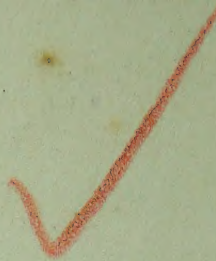
Chemical Formula	Name	Other Components	System Number	Page
H_2O Cont.	Water	3-Hydroxy-3-methyl-2-butanone	142	224
		Meso 2,3 butylene-glycol	135-A,B	214,215
		Methanol	90-A,B,C	143,144,146
		2-Methyl-3-butyn-2-ol	143	225
		Methyl ethyl ketone	98	154
		Nitric acid	104	161
		Nitromethane	144	226
		Phenol	145	227
		i-Propanol	120	192
		n-Propanol	121	193
		Sulphuric acid	146	229
		Acetone and Chloroform	147	230
		Acetone and Methanol	149-A,B	233,235
		Acetone and Acetic Acid	150	237
		Ethanol and Benzene	153	243
		Ethanol and Ethyl acetate	154	244
		Ethanol and Cellosolve	155	247
		Ethanol and Di-oxane	156	250
		Methanol and Ethanol	160	257
		Nitric acid and Sulphuric acid	163	267
		Isopropyl alcohol and Nitro methane	170	280
		Sulphuric acid and Acetic acid	172	282
H_2O_4S	Sulphuric acid	Water	146	229
		Nitric acid and Water	163	267
		Water and Acetic acid	172	282
H_3N	Ammonia	Water	17	25
H_4N_2	Hydrazine	Water	140	222
H_6N_2O	Hydrazine hydrate	Water	141	223
He	Helium	N_2 , Methane, Ethane, Propane, and Butane	175	285
N_2	Nitrogen	Argon	105	162
		n-Heptane	106	163
		Oxygen	107-A,B	164,165
		Methane and n-Heptane	164	272
		Methane and n-Hexane	165	273
		Methane and Mixed Hexane	166	274
		Methane and n-Pentane	167	275
		Methane and Mixed Pentane	168	276
		Helium, Methane, Ethane, Propane, and Butane	175	285
N_2O_4	Nitrogen tetroxide	Nitric acid	108	174
O_2	Oxygen	Nitrogen	107-A,B	164,165



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